

NORTEL NETWORKS™

How the world shares ideas.

Meridian 1

X11 Release 24.0X

Software Feature Guide

Book 1 of 3



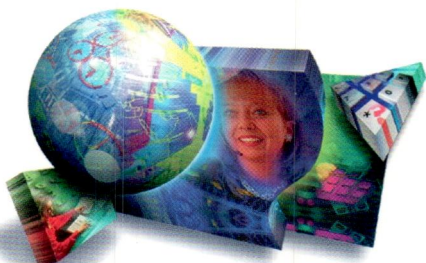
Meridian 1

X11 Release 24.0X

Software Feature Guide

Book 1 of 3

Feature



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BK 1 of 3

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Software Feature Guide

Table 1 lists the contents of the Software Feature Guide binder set.

Table 1
Software Feature Guide Contents

Binder	NTP	Document Title	Issue	Date of Issue	Total Pages
1 of 3	P0889452	Software Feature Binder contents	7.00	99 06 01	2
	553-3001-011	International Feature Listing	4.00	99 06 01	70
	553-3001-306	X11 features and services	8.00	99 06 01	936
2 of 3	553-3001-306	X11 features and services	8.00	99 06 01	940
3 of 3	553-3001-306	X11 features and services	8.00	99 06 01	925

Table 2 lists all Meridian 1 binder sets that are available in both the U.K. and International markets.

Table 2
Available Meridian Binder Sets

Binder codes for U.K.	Binder Titles
NTRA88AA (U.K. only)	DASS2 and DPNSS1 Binder Set
NTRA89AA (U.K. only)	Meridian Data Services
NTRA87AA (U.K. only)	Planning and Engineering Guide
Binder codes for International	
NTRA75AA	Automatic Call Distribution
NTRA76AA	DPNSS1
NTRA77AA	Hospitality
NTRA78AA	Installation and Maintenance
NTRA79AA	ISDN Basic Rate Interface
NTRA94AA	Networking
NTRA80AA	Meridian Data Services
NTRA81AA	Planning and Engineering
NTRA82AA	Remote Service Products Guide
NTRA83AA	Software Feature Guide
NTRA84AA	Software Input/Output Guide
NTRA85AA	Software System Management Guide
NTRA86AA	Upgrade and Conversion Procedures
NTRA95AA	Upgrade System Installation

Meridian 1

International Feature Listing

Document Number: 553-3001-011
Document Release: Standard 5.00
Date: June 1999

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Revision history

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Standard, Issue 3.00.

August 1996

Standard, Issue 2.00.

July 1995

Standard, Issue 1.00. This document was created to help users find specific information about X11 features available in the International marketplace.

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Introduction

The purpose of this document is to provide a complete list of all software features available on Meridian 1 systems, and to indicate the source document where descriptive information can be found.

The following documents are acknowledged in this Meridian 1 International Feature Listing:

- 2 Mbps Digital Trunk Interface Description (553-2911-100)
- ACD Feature description (553-2671-110)
- ACD management commands and reports (553-2671-112)
- Background Terminal Facility description (553-2311-316)
- Basic and Network Alternate Route Selection description (553-2751-100)
- Basic and Network Authorization Code description (553-2751-103)
- Call Detail Recording Description and Formats (553-2631-100)
- Centralized Attendant Service description and engineering (553-2681-100)
- Coordinated Dialing Plan description (553-2751-102)
- Digital Trunk Interface/Computer-to-PBX Interface description (553-2811-100)
- DASS2 Product Information Guide (553-3911-100)
- DPNSS1 Product Information Guide (553-3921-100)
- Electronic Switched Network description (309-3001-100)
- Flexible Numbering Plan description, operation, and administration (553-2751-105)
- International ISDN PRI Product and features description (553-2901-101)
- ISDN BRI Product Description (553-3901-100)

- Meridian Data Services Description (553-2731-100)
- Message Center description and operation (553-2691-100)
- Message Registration description and operation (553-2701-101)
- Network ACD description and operation (553-3671-120)
- Network Queuing description (553-2751-101)
- Office Data Administration System description and engineering (553-2721-100)
- Property Management System Interface description (553-2801-101)
- R2MFC Description, Hardware and Engineering Information (553-2861-100)
- Remote Peripheral Equipment, 2Mb/s Description and Engineering Guidelines (553-2931-100)
- Software feature guide (553-3001-306)

Meridian 1 Software Features

Feature	NTP	Package
1+ Dialing	Basic and Network Alternate Route Selection description	BARS (57) NARS (58)
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2 Mbps Digital Trunk Interface Enhancements	Software feature guide	DTI2 (129)
2 Mbps Remote Peripheral Equipment	Software feature guide	RPE2 (164)
2 Mbps Remote Peripheral Equipment Alarm Handling	Software feature guide	RPE2 (164)
7 Digit DNIS for MAX	Automatic Call Distribution Feature description	DNIS (98) ACDD (50)
16-Button Digitone/ Multifrequency Operation	Software feature guide	ABCD (144)
64K Clear Data	International ISDN PRI Feature description and administration	ISDN (145)
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500 Telephone Features	Software feature guide	SS5 (73)
510 Trunk Route Member Expansion	International ISDN PRI Feature description and administration	BASIC (24)
2500 Telephone Features	Software feature guide	SS25 (18)

AC15 Recall: <ul style="list-style-type: none"> • Timed Reminder Recall • Transfer from Meridian 1 • Transfer from Norstar 	Software feature guide	ACRL (236)
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ACD Call Delays	Automatic Call Distribution Feature description	BACD (40) SUPP (131)
ACD Call Priority	Automatic Call Distribution Feature description	BACD (40) SUPP (131)
ACD Call Waiting Thresholds	Automatic Call Distribution Feature description	BACD (40) ACDB (41) SUPP (131)
ACD Calls on Hold	Automatic Call Distribution Feature description	BACD (40) SUPP (131)
ACD Dynamic Queue Threshold	Automatic Call Distribution Feature description	BACD (40) SUPP (131)
ACD Least Call Queuing	Automatic Call Distribution Feature description	ACDB (41)
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ACD Night Call Forward without Disconnect Supervision	Automatic Call Distribution Feature description	ADSP (289) BACD (40) ACDA (45)
ACD Night Service	Automatic Call Distribution Feature description	BACD (40)
ACD System Features	Automatic Call Distribution Feature description	BACD (40) ACDB (41)

ACD Threshold Visual Indication	Automatic Call Distribution Feature description	BACD (40) ACDB (41) SUPP (131)
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Activity Codes for Not Ready State	Software feature guide	ACNT (155)
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<ul style="list-style-type: none"> • AXE-10 Australia (at end of call) • INS1500 (Japan D70) (at end of call) • Numeris (at end of call) • SwissNet (during a call) • 1TR6 (at end of call) • EuroISDN (at call set-up, during a call, end-of-call) 		
Agent and supervisor communication (Advanced)	Automatic Call Distribution Feature description	ACDA (45)
Agent ID option	ACD management commands and reports	BACD (40) ACDA (45)
Agent Key (Advanced)	Automatic Call Distribution Feature description	ACDA (45)
Agent Lamps (Advanced)	Automatic Call Distribution Feature description	ACDA (45)
Agent Lamps (Basic)	Automatic Call Distribution Feature description	BACD (40)
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Attendant Blocking of DN	Software feature guide	SACP (181) NAS (159)
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Attendant Break-In to Inquiry Calls	Software feature guide	BKI (127)
Attendant Break-In to Lockout Set Denied	Software feature guide	BKI (127)
Attendant Break-In with Secrecy	Software feature guide	BKI (127)
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Attendant Call Selection	Software feature guide	BASIC (0)
Attendant Calls Waiting Indication	Software feature guide	BASIC (0)
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Attendant Clearing during Night Service	Software feature guide	MPO (141)
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Attendant Interpositional Transfer	Software feature guide	BASIC (0)
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Attendant Recall with Splitting	Software feature guide	BASIC (0)
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<ul style="list-style-type: none"> • Dial Intercom Handsfree Voice Call • Distinctive Ringing for Dial Intercom 		
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Dialed Number Identification Service	Automatic Call Distribution Feature description	DNIS (98)
Dialed Number Identification Service on CDR	Automatic Call Distribution Feature description	DNIS (98)
Dialed Number Identification Service across Call Modifications	Automatic Call Distribution Feature description	DNIS (98)
Dialed Number Identification Service (DNIS) (Advanced)	Automatic Call Distribution Feature description	ACDA (45)
Dialed Number Identification Service (DNIS) Across Call Modifications (Advanced)	Automatic Call Distribution Feature description	ACDA (45)
Dialed Number Identification Service (DNIS) on CDR (Advanced)	Automatic Call Distribution Feature description	ACDA (45)
Dialed Number Identification Services Length Flexibility	Software feature guide	DNIS (98)
Dialing Transparency	Basic and Network Alternate Route Selection description	BARS (57) NARS (58)
DID Offering	International ISDN PRI Feature description and administration (Italian Phase 2 Features for DTI2)	DTI2 (129)
DID-to-Network Calling	International ISDN PRI Feature description and administration	
Digit Display: <ul style="list-style-type: none"> • Attendant Console Digit Display • SL-1 Telephone Digit Display 	Software feature guide	DDSP (19)
Digit Key Signaling at Console	International ISDN PRI Feature description and administration	DKS (180)
Digit Manipulation	Basic and Network Alternate Route Selection description	BARS (57) NARS (58)
Digit Sequence	Software feature guide (Flexible Dial Tone Detection)	DTD (138)
Digit Translation/Restriction/Recognition	Basic and Network Alternate Route Selection description	BARS (57) NARS (58)
Digital Access Signaling System No.2 (DASS2)	DASS2 Product Information Guide	DASS2 (124)
Digital Private Networking Signaling System	DPNSS1 Product Information Guide	DPNSS (123)

Digital Trunk Interface	Software feature guide; International ISDN PRI Product and features description	DTI2 (129)
Digital Trunk Interface – Commonwealth of Independent States	Software feature guide	CIST (221)
Digital Trunk Interface and Primary Rate Interface Time Slot Reuse	Software feature guide	DTI2 (129)
Digital Trunk Interface/Computer-to- PBX Interface	Digital Trunk Interface/ Computer-to- PBX Interface description	DTI2 (129)
Digitone Receiver Enhancements: <ul style="list-style-type: none"> • Digitone Receiver Time-out Enhancement • Quadruple Density Digitone Receiver Card 	Software feature guide	BASIC (0)
Direct Inward Dialing Call Forward No Answer Timer	Software feature guide	FFC (139)
Direct Inward Dialing Recall Features on DTI2 for Italy: <ul style="list-style-type: none"> • Direct Inward Dialing Offering • Direct Inward Dialing Recall 	Software feature guide	DTI2 (129)
Direct Inward Dialing to Network Calling	Software feature guide	ISDNS (161)
Direct Inward Dialing to TIE Connection	Software feature guide	SUPP (131)
Direct Inward System Access (DISA)	Software feature guide	DISA (22)
Direct Inward System Access on Unsupervised Trunks	Software feature guide	DISA (22)
Direct Private Network Access	Software feature guide	DPNA (250)
Directed Call Pickup	Software feature guide (Call Pickup, Directed)	DCP (115)

Directory Number: <ul style="list-style-type: none"> • Flexible Attendant Directory Number • Listed Directory Number • Listed Directory Numbers, Network Wide • Multiple Appearance Directory Number • Prime Directory Number • Single Appearance Directory Number 	Software feature guide	BASIC (0)
Directory Number Delayed Ringing	Software feature guide	BASIC (0)
Directory Number Expansion	Software feature guide	DNXP (150)
Directory Number Key (Basic)	Automatic Call Distribution Feature description	BACD (40)
Display Agents Key (Basic)	Automatic Call Distribution Feature description	BACD (40)
Display of Calling Party Denied	Software feature guide; International ISDN PRI Product and features description	SUPP (131)
Display Waiting Calls (DWC) Key	Automatic Call Distribution Feature description	BACD (40)
Display Waiting Calls (DWC) Key (Advanced)	Automatic Call Distribution Feature description	ACDA (45)
Distinctive Ringing by DN	Software feature guide	BASIC (24)
Distinctive Ringing for Dial Intercom	Software feature guide (Dial Intercom)	DI (21)
Distinctive/New Distinctive Ringing	Software feature guide	DRNG (74)
Do Not Disturb: <ul style="list-style-type: none"> • Group Do Not Disturb • Individual Do Not Disturb 	Software feature guide	DNDG (16) DNDI (9)
DPNSS1 Attendant Call Offer	DPNSS1 Product Information Guide	DNWK (231)
DPNSS1 Attendant Timed Reminder Recall and Attendant Three Party Service	DPNSS1 Product Information Guide	DNWK (231)
DPNSS1 Executive Intrusion	DPNSS1 Product Information Guide	DPNSS_ES (288)

DPNSS1 Extension Three Party Service	DPNSS1 Product Information Guide	DNWK (231)
DPNSS1 Loop Avoidance	DPNSS1 Product Information Guide	DNWK (231)
DPNSS1 Message Waiting Indication	DPNSS1 Product Information Guide	DMWI (325) DNWK (231)
DPNSS1 Redirection	DPNSS1 Product Information Guide	DNWK (231)
DPNSS1 Route Optimisation	DPNSS1 Product Information Guide	DNWK (231)
DPNSS1 Step Back on Congestion	DPNSS1 Product Information Guide	DNWK (231)
DPNSS1 to ISDN BRI, QSIG, and EuroISDN Gateway	DPNSS1 Product Information Guide	DPNSS1891 (284)
DPNSS1 to R2MFC Gateway	DPNSS1 Product Information Guide	DPNSS (123) DTI2 (129)
DPNSS1/DASS2 to Q.931 Gateway	International ISDN PRI Feature description and administration	UK (190) DPNSS (123) DASS2 (124) IDA (122) ISDN (145) PRI2 (154)
DPNSS1/DASS2 Uniform Dialing Plan Interworking	DPNSS1 Product Information Guide	BARS (57) NARS (58) NCOS (32) FNP (160) IDA (122) DPN (123) DAS (124) SUPP (131) BRTE (14)
DPNSS1 Route Optimisation/MCDN Trunk Anti-Tromboning Interworking	International ISDN PRI Feature description and administration	
Dual Signalling on Analog Trunks	Software feature guide	BASIC (24)
Dual Value Added Server Identification	Automatic Call Distribution Feature description	BACD (40) MWC (46) CSL (77)
E.164/ESN Numbering Plan Expansion	International ISDN PRI Feature description and administration	
Electronic Lock	Software feature guide (Flexible Feature Codes)	FFC (139)
Electronic Lock Network Wide/ Electronic Lock on Private Lines	International ISDN PRI Product and features description	FFC (139) ISDN (145)

Electronic Switched Network:	Electronic Switched Network description	BARS (57) NARS (58)
<ul style="list-style-type: none"> • BARS/NARS 11-Digit Translation • BARS/NARS Incoming Trunk Group Exclusion • BARS/NARS Off-Net Number Recognition • Basic Alternate Route Selection • Basic Authorization Code • Call Back Queuing • Call Back Queuing to Conventional Mains • Coordinated Call Back Queuing • Coordinated Call Back Queuing Against Main • Flexible ESN "0" Routing • NARS Multiple DID Office Code Screening • Network Alternate Route Selection • Network Authorization Code • Network Class of Service • Network Call Transfer • Network Signaling • Network Speed Call • Network Traffic • Off-Hook Queuing 		
Electronic Switched Network Compatibility on ISDN	International ISDN PRI Feature description and administration	
Emergency Key (Advanced)	Automatic Call Distribution Feature description	ACDA (45)
End of Selection	Software feature guide	SUPP (131)
End of Selection Busy	Software feature guide	SUPP (131)
End-of-dialing on Direct Inward/Outward Dialing	Software feature guide	SUPP (131)
End-to-End Signaling	Software feature guide;	EES (10)
<ul style="list-style-type: none"> • Attendant End-to-End Signaling 	Call Detail Recording Description and Formats	
Enhanced ACD Routing (Advanced)	Automatic Call Distribution Feature description	ACDA (45)

Enhanced Hot Line	Software feature guide (Hot Line)	HOT (70)
Enhanced Interflow	Automatic Call Distribution Feature description	ACDA (45)
Enhanced Maintenance (Patching)	Software feature guide	SUPP (131)
Enhanced Malicious Call Trace	Software feature guide (Malicious Call Trace)	MCT (107)
Enhanced Music	Software feature guide (Music, Enhanced)	EMUS (119)
Enhanced Night Service	Software feature guide	ENS (133)
• Group Night Service		
Enhanced Overflow (Advanced)	Automatic Call Distribution Feature description;	EOVF (178)
Enhanced Override	Software feature guide (Override, Enhanced)	BASIC (0)
Equal Access Compliance:	Software feature guide	BASIC (0)
• Equal Access Dialing Plans		
• Federal Communications Commission Compliance for Equal Access		
• Carrier Access Codes		
Equi-distribution Network Attendant Service Routing	International ISDN PRI Product and features description	NARS (58) NAS (159)
Error Handling on ISDN Signaling Link Analog E&M TIE Trunks	International ISDN PRI Product and features description	ISL (147)
ESN	Electronic Switched Network description	BARS (57) NARS (58)
ESN Compatibility on ISDN PRI	International ISDN PRI Feature description and administration (Electronic Switched Network Compatibility on ISDN)	
ETSI Call Forward Unconditional	ISDN BRI Product Description (ISDN BRI ETSI Call Forward Unconditional)	BRI (216) BRIL (235)
ETSI Conference	ISDN BRI Product Description (ISDN BRI ETSI Conference)	BRI (216) BRIL (235)
EuroISDN 7kHz/Videotelephony teleservices	International ISDN PRI Feature description and administration	ISDN (145)

EuroISDN Continuation	International ISDN PRI Feature description and administration	EURO (261)
EuroISDN Malicious Call Identification	International ISDN PRI Feature description and administration	ETSI_SS (323)
EuroISDN Trunk - Network Side	International ISDN PRI Feature description and administration	
European Extended DID/DOD Software Support	Software feature guide (Extended DID/DOD Software Support – Europe)	XCT1 (205)
Executive Distinctive Ringing	International ISDN PRI Product and features description (Network and Executive Distinctive Ringing)	EDRG (185)
Executive Intrusion	DPNSS1 Product Information Guide (DPNSS1 Executive Intrusion)	DPNSS_ES (288)
Expensive Route Warning Tone	Basic and Network Alternate Route Selection description	BARS (57) NARS (58)
Extended DID/DOD Software Support – Europe	Software feature guide	XCT1 (205)
Extended Flexible Central Office Trunk Software Support	Software feature guide	XCT1 (205)
Extended Multifrequency Compelled Sender/Receiver	Software feature guide	XPE (203)
Extended Tone Detector Global Parameters Download	Software feature guide	XCT1 (205)
Extension Three Party Service	DPNSS1 Product Information Guide (DPNSS1 Extension Three Party Service)	DNWK (231)
Facility Restriction Level	Basic and Network Alternate Route Selection description	BARS (57) NARS (58)
Fast Tone Digit Switch	Software feature guide	FTDS (87)
Feature Group D Automatic Number Identification	Call Detail Recording Description and Formats	FGD (158)
Federal Communications Commission Compliance for Equal Access	Software feature guide (Equal Access Compliance)	BASIC (0)
Federal Communications Commission Compliance for DID Answer Supervision	Software feature guide	FC68 (223)

First-second Degree Busy Indication	Software feature guide	SUPP (131)
Flexible Voice/Data Terminal Number	Software feature guide	DEST (88)
Flexible Attendant Call Waiting Thresholds	Software feature guide	SUPP (131)
Flexible Attendant Directory Number	Software feature guide (Directory Number)	BASIC (0)
Flexible Busy Tone Timer	Software feature guide	SUPP (131)
Flexible Call Forward No Answer	Software feature guide (Call Forward No Answer/Flexible Call Forward No Answer)	BASIC (0)
Flexible CDR Digit Suppression	Call Detail Recording Description and Formats	CDR (4)
Flexible Dial Tone Detection: <ul style="list-style-type: none"> • Count Detection • Dial Tone Position • Digit Sequence 	Software feature guide	DTD (138)
Flexible Direct Inward Dialing	Software feature guide	FDID (362)
Flexible ESN "0" Routing	Electronic Switched Network description	BARS (57) NARS (58)
Flexible Feature Code Boss Secretarial Filtering	Software feature guide	FFCSF (198)
Flexible Feature Codes	Software feature guide	FFC (139)
Flexible Hot Line	Software feature guide (Hot Line)	HOT (70)
Flexible Incoming Tones	Software feature guide (Tones, Flexible Incoming)	BASIC (0)
Flexible Key Assignment	Software feature guide	SUPP (131)
Flexible Line Lockout Timers	Software feature guide (Line Lockout)	BASIC (0)
Flexible Line Lockout	Software feature guide (Line Lockout)	BASIC (0)
Flexible Numbering Plan	Flexible Numbering Plan description, operation, and administration	FNP (160)
Flexible Numbering Plan Enhancement	Flexible Numbering Plan description, operation, and administration	FNP (160)
Flexible Orbiting Prevention Timer	Software feature guide	BASIC (0)

Flexible Timers	Software feature guide (China Number 1 Signaling)	OPCB (126)
Flexible Tone and Digit Switch Control	Software feature guide	FTC (125)
Flexible Tones and Cadences	Software feature guide (Tones and Cadences)	FTC (125)
Forced Camp-On and Priority Override	Software feature guide	POVR (186)
Forced Charge Account	Software feature guide (Charge Account, Forced)	FCA (52)
Forced Register Recall	Software feature guide (Multi-Party Operations)	MPO (141)
Forward No Answer Call Waiting Direct Inward Dialing	Software feature guide	FRTA (197)
Free Calling Area Screening	Basic and Network Alternate Route Selection description	BARS (57) NARS (58)
Generic XFCOT Software Support	Software feature guide	XCT1 (205)
Global Incremental Software Management	Software feature guide	BASIC (24)
Ground Button	Software feature guide (Variable Flash Timing and Ground Button)	SUPP (131)
Group Call	Software feature guide	GRP (48)
Group Do Not Disturb	Software feature guide (Do Not Disturb)	DNDG (16) DNDI (9)
DN Access to Speed Call List	Software feature guide (Speed Call Directory Number Access)	PLDN (120)
Group Hunt	Software feature guide	PLDN (120)
Group Hunting Queuing Limitation	Software feature guide	SUPP (131) PLDN (120)
Group Hunting Queuing Limitation Enhancement	Software feature guide	FRTA (197) PLDN (120)
Group Night Service	Software feature guide (Enhanced Night Service)	ENS (133)
Guest Entry of Wake Up Calls	Background Terminal Facility description (Automatic Wake Up)	AWU (102) MLWU (206)
Handset Volume Reset	Software feature guide	BASIC (0)

Handsfree Transmission Parameter Download	Software feature guide	BASIC (0)
Handsfree Voice Call	Software feature guide (Voice Call)	BASIC (0)
Held Call Clearing	Software feature guide	SUPP (131)
History File	Software feature guide	HIST (55)
Hold in Queue for Interactive Voice Response (Advanced)	Automatic Call Distribution Feature description	ACDA (45)
Hong Kong Digital Trunk Interface	Software feature guide	PBXI (75)
Hot Line:	Software feature guide	HOT (70)
<ul style="list-style-type: none"> • Flexible Hot Line • Enhanced Hot Line 		
Hot Type D and Hot Type I Enhancements	International ISDN PRI Feature description and administration (Network Intercom)	HOT (70)
Hunt Override via Flexible Feature Code	Software feature guide (Call Forward/Hunt Override via Flexible Feature Code)	FFC (139)
Hunting:	Software feature guide	BASIC (0)
<ul style="list-style-type: none"> • Circular Hunting • Linear Hunting • Secretarial Hunting • Short Hunting • Data Port Hunting • Trunk Hunting 		
Hunting by Call Type	Software feature guide	SUPP (131)
Idle Extension Notification Attendant	Software feature guide; International ISDN PRI Product and features description	SACP (181)
Ignore Switchhook Flash	Software feature guide (Multi-Party Operations)	MPO (141)
In-Band ANI	ANI description (Automatic Number Identification)	ANI (12)
In-Band Automatic Number Identification (IANI) (Basic)	Automatic Call Distribution Feature description	BACD (40)
In-Calls Key (Basic)	Automatic Call Distribution Feature description	BACD (40)

Incoming Call Indicator Enhancement	Software feature guide	BASIC (0)
Incoming Digit Conversion Enhancement	Software feature guide; International ISDN PRI Product and features description	ISDNS (161)
Incoming Direct Inward Dialing Digit Conversion	Software feature guide	IDC (113)
Incoming Trunk Group Exclusion	Basic and Network Alternate Route Selection description	BARS (57) NARS (58)
Incoming Trunk Programmable Calling Line Identification	International ISDN PRI Feature description and administration	BASIC (0)
Incoming Trunk Restrictions (Basic)	Automatic Call Distribution Feature description	BACD (40)
Incremental Software Management	Software feature guide	BASIC (0)
India Phase 2	R2MFC	MFC (128)
Individual Do Not Disturb	Software feature guide (Do Not Disturb)	DNDG (16) DNDI (9)
Individual Hold Enhancement	Software feature guide (Call Hold, Individual Hold Enhancement)	DHLD (71)
INIT ACD Queue Call Restore	Automatic Call Distribution Feature description	BACD (40)
Instant ISM	Software feature guide	BASIC (24)
Integrated Messaging System Link	Software feature guide	IMS (35)
Integrated Services Access (ISA)	International ISDN PRI Feature description and administration	IPRA (202)
Integrated Services Digital Network (ISDN)	International ISDN PRI Product and features description	ISDN (145)
Integrated Voice and Data	Software feature guide	BASIC (0)
Intelligent Peripheral Equipment Completion:	Software feature guide	XPE (203)
<ul style="list-style-type: none"> • L1 Signaling on XFEM • Loop Dial Repeat Signaling on Italian DID card • RON/TRON Signaling on XFEM 		
Intelligent Peripheral Equipment Software Support Enhancements	Software feature guide	XPE (203)

Intercept Computer Dial from Directory	Software feature guide	ICP (143)
Intercept Computer Enhancements	Software feature guide	ICP (143)
Intercept Computer Interface	Software feature guide	ICP (143)
Intercept Computer Network Screen Activation, Flexible DN, Meridian Mail Interactions	Software feature guide	ICP (143)
Intercept Treatment	Software feature guide	INTR (11)
Intercept Treatment Enhancements:	Software feature guide	SUPP (131)
<ul style="list-style-type: none"> • MFC Call to Vacant Office Code • MFC Call to Vacant Number Code • MFC Congestion 		
Interchangeable Numbering Plan Area	Software feature guide (North American Numbering Plan)	BASIC (0)
Interflow Key (Advanced)	Automatic Call Distribution Feature description	ACDA (45)
Internal Call Detail Recording	Call Detail Recording Description and Formats	ICDR (108)
Internal Call Waiting	Software feature guide (Call Waiting/Internal Call Waiting)	BASIC (0)
International Meridian 1	Software feature guide	BASIC (0)
ISDN BRI Rate Interface	ISDN BRI Product Description	BRI (216)
ISDN BRI Calling Line Identification and Presentation	ISDN BRI Product Description	BRI (216)
ISDN BRI Circuit-Switched Data Calls	ISDN BRI Product Description	BRI (216)
ISDN BRI Clocking	ISDN BRI Product Description	BRI (216)
ISDN BRI ETSI Call Forward Unconditional	ISDN BRI Product Description	BRI (216) BRIL (235)
ISDN BRI ETSI Conference	ISDN BRI Product Description	BRI (216) BRIL (235)
ISDN BRI Line Access	ISDN BRI Product Description	BRI (216) BRIL (235)
ISDN BRI Line and Packet Data	ISDN BRI Product Description	BRI (216) BRIL (235)
ISDN BRI National ISDN-1 Call Forward All Calls	ISDN BRI Product Description	BRI (216) BRIL (235)

ISDN BRI National ISDN-1 Conference	ISDN BRI Product Description	BRI (216) BRIL (235)
ISDN BRI Packet Data Transmission	ISDN BRI Product Description	BRI (216)
ISDN BRI Set-Based Features on ISDN BRI Terminals	ISDN BRI Product Description	BRI (216) BRIL (235)
ISDN BRI Special Call Forward Busy	ISDN BRI Product Description	BRI (216) BRIL (235)
ISDN BRI Special Hunting	ISDN BRI Product Description	BRI (216) BRIL (235)
ISDN BRI Trunk Access: <ul style="list-style-type: none"> • ISDN BRI Local Exchange/CO/ DID Connectivity (Numeris VN3; 1TR6; ETSI NET-3 (EuroISDN); INS NET-64 (Japan D70); Asia Pacific) • ISDN BRI TIE Trunk Connectivity 	ISDN BRI Product Description;	BRI (216) BRIT (235)
ISDN Calling Line Identification Enhancements	International ISDN PRI Feature description and administration	
ISDN International 1.5/2.0 Mbps Gateway	International ISDN PRI Feature description and administration	GRPI (167)
ISDN PRI Central Office Connectivity: <ul style="list-style-type: none"> • Asia Pacific • AXE-10 (Sweden) • China • EuroISDN • Japan D70 • Malaysia • NEAX-61 (New Zealand) • Numeris VN3 (France) • SwissNet 2 (Switzerland) • SYS-12 (Norway) • 1TR6 (Germany) 	International ISDN PRI Feature description and administration	IPRA (202) ISDN (145) PBXI (75) PRI2 (154) ISDNS (161) EURO (261) OVLP (184)
ISDN QSIG Alternate Routing	International ISDN PRI Feature description and administration	QSIG (263)
ISDN QSIG Basic Call	International ISDN PRI Feature description and administration	QSIG (263)
ISDN Call Diversion Notification	International ISDN PRI Feature description and administration	QSIG-SS (316)

ISDN QSIG-BC and QSIG-GF Compliance Update	International ISDN PRI Feature description and administration	ISDN (145)
ISDN QSIG Call Transfer Notification	International ISDN PRI Feature description and administration	QSIG (263)
ISDN QSIG Call Diversion Notification Enhancements	International ISDN PRI Feature description and administration	QSIG (263)
ISDN QSIG Channel ID Coding	International ISDN PRI Feature description and administration	ISDN (145)
ISDN QSIG ETSI GF Enhancement	International ISDN PRI Feature description and administration	ISDN (145)
ISDN QSIG EuroISDN Call Completion	International ISDN PRI Feature description and administration	QSIG (263)
ISDN QSIG Generic Functional Transport	International ISDN PRI Feature description and administration	QSIG-GF (305)
ISDN QSIG Name Display	International ISDN PRI Feature description and administration	QSIG (263) CPND (95)
ISDN QSIG Path Replacement	International ISDN PRI Feature description and administration	QSIG-SS (316)
ISDN Semi Permanent Connections for Australia	International ISDN PRI Feature description and administration	
ISDN Signaling Link	International ISDN PRI Feature description and administration	ISL (147)
ISDN/Auxiliary Processor Link Recovery Enhancement	PMSI description (Meridian Hospitality Voice Services)	HVS (179)
Italian Central Office Special Services	Software feature guide	SUPP (131) THF (157) DTI2 (129)
Italian Periodic Pulse Metering	Software feature guide	DTI2 (129)
Italian Phase 2 Features for DTI2: <ul style="list-style-type: none"> • DID Offering • DID Recall 	International ISDN PRI Feature description and administration	DTI2 (129)
Japan Central Office Trunks	Call Detail Recording Description and Formats	JPN (97)
Japan D70 nB+D	International ISDN PRI Feature description and administration	INBD (255)
Japan TTC Common Channel Signaling	International ISDN PRI Feature description and administration	JTTC (335)

KD3 Direct Inward Dialing/Direct Outward Dialing for Spain	Meridian 1 IPE Supplement for Spain	KD3 (252)
KE Multifrequency Compelled Tandem Signaling	Software feature guide (China Number 1 Signaling)	OPCB (126)
L1 Signaling on XFEM	Software feature guide (Intelligent Peripheral Equipment Completion)	XPE (203)
Last Number Redial	Software feature guide	LNR (90)
Limited Access to Overlays	Software feature guide	LAPW (164)
Limited Access to Overlays Password Enhancement	Software feature guide	LAPW (164)
Line and Trunk Cards	Software feature guide	Not applicable
Line Load Control	Software feature guide	LLC (105)
Line Lockout: <ul style="list-style-type: none"> • Flexible Line Lockout • Flexible Line Lockout Timers 	Software feature guide	BASIC (0)
Linear Hunting	Software feature guide (Hunting)	BASIC (0)
Listed Directory Numbers	Software feature guide (Directory Number)	BASIC (0)
Listed Directory Numbers, Network Wide	Software feature guide (Directory Number)	BASIC (0)
Load Management	ACD management commands and reports	LMAN (43)
Lockout, DID Second Degree Busy, and MFE Signaling Treatments	Software feature guide	SUPP (131)
Log In (Basic)	Automatic Call Distribution Feature description	BACD (40)
Log Out (Basic)	Automatic Call Distribution Feature description	BACD (40)
LOGIVOX Telephone	Software feature guide	SUPP (131)
Loop Avoidance	DPNSS1 Product Information Guide (DPNSS1 Loop Avoidance)	DNWK (231)
Loop Dial Repeat Signaling on Italian DID card	Software feature guide (Intelligent Peripheral Equipment Completion)	XPE (203)
Loop Start Supervisory Trunks	Software feature guide	SUPP (131)

Loop Start Supervisory Trunks (Incoming Calls)	Software feature guide	SUPP (131)
Loopback on Public Exchange/ Central Office Trunks	Software feature guide	FRTA (197)
M2312 Digit Display	Software feature guide	DSET (88)
M911 and ANI	ANI description	M911 (224)
Maid Identification	Software feature guide; Background Terminal Facility description	MAID (210)
Make Set Busy	Software feature guide	MSB (17)
Make Set Busy and Voice Call Override	Software feature guide	BASIC (0)
Make Set Busy Improvement	Software feature guide	MSB (17)
Make Set Busy Key (Basic)	Automatic Call Distribution Feature description	BACD (40)
Malicious Call Trace	Software feature guide	MCT (107)
<ul style="list-style-type: none"> • Malicious Call Trace for Saudi Arabia • Malicious Call Trace for AXE-10 Australia • Enhanced Malicious Call Trace 		
Malicious Call Trace DN/TN Print	Software feature guide	MCT (107)
Malicious Call Trace Enhancements:	International ISDN PRI Feature description and administration	MCT (107) ISDNS (161) NAS (159)
<ul style="list-style-type: none"> • Functional Enhancements • Malicious Call Trace Record • Malicious Call Trace for Saudi Arabia • Malicious Call Trace for AXE-10 Australia • Trace Number Key Lamp Status 		
Malicious Call Trace Idle	Software feature guide	MCT (107)
Malicious Call Trace Key	Automatic Call Distribution Feature description	BACD (40)
Malicious Call Trace on Direct Inward Dialing	Software feature guide	SUPP (131)
Manual Line Service	Software feature guide	BASIC (0)

Manual Return after Enquiry (Manual Hold)	Software feature guide (Multi-Party Operations)	MPO (141)
Manual Service Recall to Attendant	Software feature guide	SUPP (131)
Manual Signaling (Buzz)	Software feature guide	BASIC (0)
Manual Trunk Service	Software feature guide	BASIC (0)
MCDN Alternate Routing	International ISDN PRI Feature description and administration	BRTE (14)
MCDN End to End Transparency	International ISDN PRI Feature description and administration	MCMO (240)
Meridian 1 Attendant Console Enhancements	Software feature guide	BASIC (0) DLDN (76)
Meridian 1 Features on ISDN BRI	ISDN BRI Product Description	Not applicable
Meridian 1 Initialization Prevention and Recovery	Software feature guide	BASIC (0)
Meridian 1 Packet Handler	Call Detail Recording Description and Formats	MPH (248)
Meridian 911	Software feature guide	M911 (224)
• Meridian 911 Call Abandon		
Meridian Communications Adapter	Software feature guide (Public Switched Data Service)	BASIC (0)
Meridian Communications Unit	Software feature guide (Public Switched Data Service)	BASIC (0)
Meridian COMPANION	Software feature guide	MCMO (240)
Meridian Companion Enhanced Capacity	Software feature guide	MCMO (240)
Meridian Data Services	Meridian Data Services description	Not applicable
• Automated Modem Pooling (AMP)		
• Automatic Dialing		
• Automatic Route Selection		
• Automatic Set Relocation		
• Call Detail Recording		
• Call Forward – All Calls		
• Call Forward – Internal Calls		
• Computer/PBS Interface		

<ul style="list-style-type: none"> • Dataport Hunting • Dedicated Modems • Digital Trunk Interface • Hotline • Hunting – Computer Modem Pool • Inbound AMP • Inbound Modem Pooling • Keyboard Dialing • Keypad Dialing • Meridian Communications Unit • Outbound AMP • Outbound Modem Pooling (not AMP) • Remote Peripheral Equipment • Ring Again • Speed Call • Synchronous Data Switching • Transparent Data Networking • User Selectable Call Redirection 		
Meridian Hospitality Voice Services: <ul style="list-style-type: none"> • Message Waiting Indication Enhancement • ISDN/Auxiliary Processor Link Recovery Enhancement 	PMSI description	HVS (179)
Meridian Mail	International ISDN PRI Feature description and administration (Network Message Services)	NMS (175)
Meridian Mail Trunk Access Restrictions	Software feature guide	MWC (46)
Meridian Mail Voice Mailbox Administration	Software feature guide	VMBA (246)
Meridian Mail, Standalone	DPNSS1 Product Information Guide	SAMM (262)
Meridian MAX/ACD-MAX	Software feature guide	Not applicable

Meridian Modular Telephones	Software feature guide (Telephones)	DSET (88) TSET (89) DLT2 (91)
Message Center	International ISDN PRI Feature description and administration (Network Message Services)	NMS (175)
Message Intercept	Software feature guide	MINT (163)
Message Registration	Message Registration description and operation	MR (101)
Message Waiting Indicator by Directory Number	Software feature guide	MWC (46)
Message Waiting Indication Interworking with DMS	Message Center description and operation	MWI (219)
Message Waiting Indication Enhancement	PMSI description (Meridian Hospitality Voice Services)	HVS (179)
Message Waiting Lamp Maintenance	Software feature guide	MWC (46)
Message Waiting Unconditional	Software feature guide	MWC (46)
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Meridian 1

International Feature Listing

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**SOFTWARE
FEATURE GUIDE
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Meridian 1

X11 features and services

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Revision history

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Issue 8.00 released as Standard for Generic X11 Release 24.2x.

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Issue 7.00. This is the X11 Release 23.0x standard version of this document. Certain application-specific features have been removed from this document and have been placed in their appropriate Northern Telecom Publications (NTPs). Automatic Call Distribution features can be found in *Automatic Call Distribution Feature description* 553-2671-110; Call Detail Recording features can be found in *Call Detail Recording Description and formats* 553-2631-100; Primary Rate Interface features can be found in *International ISDN PRI Feature description and administration* 553-2901-301; R2MFC and MFC features can be found in *Multifrequency Compelled Signaling* 553-2861-100; and DPNSS1 features can be found in *DPNSS1 Features and Services* 553-3921-300.

August, 1996

Issue 6.00. This is the X11 Release 22.0x standard version of this document. The features Automatic Number Identification, Automatic Trunk Maintenance, Multi Tenant Service, Radio Paging and X08/11 Gateway have been incorporated into this document. Accordingly, the following Northern Telecom Publications have been retired to reflect this change: 553-2611-200, 553-2751-104, 553-2831-100, 553-2721-111 and 553-2941-100.

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Introduction

The *X11 features and services* Northern Telecom Publication (NTP) describes the software features available with the Meridian 1 system. The features are described in feature modules that are arranged alphabetically by feature name. Each feature module contains some or all of the following information:

- Date that the feature was first released (release box at top right of page)
- Feature description
- Operating parameters
- Feature interactions
- Feature packaging
- Feature implementation
- Feature operation

Release box

The Release box, located in the upper right hand corner of the first page of the feature module, identifies the X11 release in which the feature was introduced. Also in this box, the feature is described as whether or not it functions in a networking environment. If the box states "Networking: Yes", then the feature operates in both a standalone and networking environment.

Feature description

The Feature description, immediately following the title, provides an overview of the feature's functionality.

Operating parameters

The Operating parameters section explains hardware and software requirements, in addition to any limitations or parameters that may exist when operating the feature.

Feature interactions

The feature interactions section explains how the feature is affected by or affects other features. When two features are mutually exclusive, they cannot be active in the system at the same time.

Feature packaging

The feature packaging section provides the packaging information (package name, package number, and package mnemonic for the feature, as well as any package dependencies.

Feature implementation

The Feature implementation section provides Overlay (LD) tables for those overlays that must be used to activate the feature. The overlay tables list only the prompts required for the feature. Prompts in parenthesis are defaults. For a complete discussion of prompts, refer to the *X11 input/output guide*.

Feature operation

The Feature operation section outlines the procedures the end user must perform from their telephone set in order for the feature to function.

Additional information

For an alphabetical list of packages, refer to the Features and software options module in this document. This list provides the package name and the features available with the package, the package number, the package mnemonic, and the earliest X11 release for which the package is available.

For a complete list of features available on the Meridian 1 system, as well as where information on these features can be found, refer to the *International Feature Listing* 553-3001-011.

Features and software options

Package Name	Number	Mnemonic	Release
AC15 Recall	236	ACRL	20
— AC15 Recall: Timed Reminder Recall			
— AC15 Recall: Transfer from Norstar			
— AC15 Recall: Transfer from Meridian 1			
Administration Set	256	ADMINSET	21
— Set-based Administration Enhancements			
Advanced ISDN Network Services	148	NTWK	13
Aries Digital Sets	170	ARIE	14
— Meridian Communications Adapter			
— Meridian Modular Telephones			
Attendant Administration	54	AA	1
— Attendant Administration			
Attendant Alternative Answering	174	AAA	15
— Attendant Alternative Answering			

Package Name	Number	Mnemonic	Release
Attendant Break-In/Trunk Offer	127	BKI	1
— Attendant Break-In			
— Break-In busy Indication and Prevention			
— Break-In to Inquiry Calls			
— Break-In to Lockout Set Denied			
— Break-In with Secrecy			
— China Number 1 Signaling – Toll Operator Break-In (see also Package 131)			
— Network Individual Do Not Disturb (see also packages 9, and 159)			
Attendant Forward No Answer	134	AFNA	14
— Attendant Forward No Answer			
— Attendant Forward No Answer Expansion			
Attendant Overflow Position	56	AOP	1
— Attendant Overflow Position			
Attendant Remote Call Forward	253	ARFW	20
— Call Forward, Remote (Network and Attendant Wide)			
Autodial Tandem Transfer	258	ATX	20
— Autodial Tandem Transfer			
Automatic Answerback	47	AAB	1
— Automatic Answerback			
Automatic Call Distribution, Account Code	155	ACNT	13
— Automatic Call Distribution Activity Code			
Automatic Call Distribution Enhanced Overflow	178	EOVF	15
— Automatic Call Distribution Enhanced Overflow			
Automatic Call Distribution Load Management	43	LMAN	1
— Automatic Call Distribution Load Management Reports			

Package Name	Number	Mnemonic	Release
Automatic Call Distribution Night Call Forward without Disconnect Supervision — Call Processor Input/Output)	289	ADSP	23
Automatic Call Distribution, Package A — Automatic Call Distribution	45	ACDA	1
Automatic Call Distribution, Package B — Automatic Call Distribution Call Waiting Thresholds (see also packages 40, and 131) — Automatic Call Distribution Least Call Queuing — Automatic Call Distribution Threshold Visual Indication (see also packages 40, and 131)	41	ACDB	1
Automatic Call Distribution Package C — Automatic Call Distribution Report Control (see also package 50) — 500/2500 Line Disconnect	42	ACDC	1
Automatic Call Distribution Package D — Automatic Call Distribution Report Control (see also package 42)	50	ACDD	2
Automatic Call Distribution Package D, Auxiliary Link Processor — ACD Package D Auxiliary Processor Link	51	LNK	2
Automatic Call Distribution Package D, Auxiliary Security — ACD-D Auxiliary Security	114	AUXS	12
Automatic Call Distribution, Priority Agent — Automatic Call Distribution Priority Agent	116	PAGT	12
Automatic Call Distribution, Timed Overflow Queuing — ACD Timed Overflow	111	TOF	10

Package Name	Number	Mnemonic	Release
Automatic Installation (Option 11 only)	200	AINS	16
— Automatic Installation			
Automatic Line Selection	72	LSEL	4
— Automatic Line Selection			
Automatic ID of Outward Dialing	3	AIOD	1
Automated Modem Pooling	78	AMP	5
Automatic Number Identification	12	ANI	1
— Automatic Number Identification			
— Automatic Number Identification on DTI			
Automatic Number Identification Route Selection	13	ANIR	1
— Automatic Number Identification Route Selection			
Automatic Redial	304	ARDL	22
— Automatic Redial			
Automatic Trunk Maintenance	84	ATM	7
— Automatic Trunk Maintenance			
Automatic Wake-Up	102	AWU	10
— Automatic Wake Up			
Auxiliary Processor Link	109	APL	10
— Auxiliary Processor Link			
Background Terminal	99	BGD	10
— Background Terminal Facility			
Basic Alternate Route Selection	57	BARS	1
— Network Alternate Route Selection/Basic Alternate Route Selection Enhancement – Local Termination (see also package 58)			
Basic Authorization Code	25	BAUT	1
— Basic Authorization Code			

Package Name	Number	Mnemonic	Release
Basic Automatic Call Distribution	40	BACD	1
— Automatic Call Distribution Alternate Call Answer			
— Automatic Call Distribution Call Delays (see also package 131)			
— Automatic Call Distribution Call Priority (see also package 131)			
— Automatic Call Distribution Call Waiting Thresholds (see also packages 41, and 131)			
— Automatic Call Distribution Calls on Hold (see also package 131)			
— Automatic Call Distribution Dynamic Queue Threshold (see also package 131)			
— Automatic Call Distribution Enhancements			
— Automatic Call Distribution in Night Service			
— Automatic Call Distribution Threshold Visual Indication (see also packages 41, and 131)			
— INIT Automatic Call Distribution (ACD) Queue Call Restore			
Basic Call Processing	0	BASIC	1
— Access Restrictions			
— Attendant Barge-In			
— Attendant Busy Verify			
— Attendant Call Selection			
— Attendant Calls Waiting Indication			
— Attendant Consoles			
— Attendant Incoming Call Indicators			
— Attendant Interpositional Transfer			
— Attendant Lockout			
— Attendant Position Busy			

Package Name	Number	Mnemonic	Release
— Attendant Recal			
— Attendant Secrecy			
— Attendant Splitting			
— Attendant Trunk Group Busy Indication			
— Audible Reminder of Held Calls			
— Automatic Gain Control Inhibit			
— Automatic Preselection of Prime Directory Number			
— Automatic Timed Reminders			
— Auxiliary Signaling			
— Bridging			
— Busy Lamp Field Array			
— Call Capacity Report			
— Call Forward and Busy Status			
— Call Forward, Break-In & Hunt Internal/External Network Wide			
— Call Forward Busy			
— Call Forward by Call Type			
— Call Forward External Deny			
— Call Forward No Answer/Flexible Call Forward No Answer			
— Call Forward, Internal Calls			
— Call Forward No Answer, Second Level			
— Call Forward Save on SYSLOAD			
— Call Pickup			

Package Name	Number	Mnemonic	Release
— Call Redirection by Time of Day			
— Call Transfer			
— Call Waiting/Internal Call Waiting			
— Called Party Disconnect Control			
— Camp-On			
— Capacity Expansion			
— Conference			
— Conference Warning Tone Enhancement for Italy			
— CP3			
— Dataport Hunting			
— Dial Pulse/Dual-tone Multifrequency Conversion			
— Digital Trunk Interface Enhancements			
— Digitone Receiver Enhancements: – Digitone Receiver Time-out Enhancement			
— Digitone Receiver Enhancements: – Quad Density Digitone Receiver Card			
— Directory Number			
• Flexible Attendant Directory Number			
• Listed Directory Numbers			
• Single Appearance Directory Number			
• Multiple Appearance Directory Number			
• Prime Directory Number			
— Directory Number Delayed Ringing			
— Diskette Overflow Warning			
— Electronic Brandlining			
— Enhanced input/output buffering			

Package Name	Number	Mnemonic	Release
— Enhanced package printout			
— Equal Access Compliance			
— Federal Communications Commission Compliance for Equal Access			
— Flexible Orbiting Prevention Timer			
— Handset Volume Reset			
— Handsfree Download (Meridian Digital Telephones			
— Hunting			
• Circular Hunting			
• Linear Hunting			
• Secretarial Hunting			
• Short Hunting			
• Data Port Hunting			
• Trunk Hunting			
— Incoming Trunk Programmable Calling Line Identification			
— Incremental Software Management			
— Input/Output Access and System Limits			
— Integrated Voice and Data			
— International Meridian 1			
— IODU/C			
— Line Lockout			
— Loop Start Supervisory Trunks			
— Make Set Busy and Voice Call Override			
— Manual Line Service			

Package Name	Number	Mnemonic	Release
— Manual Signaling (Buzz)			
— Manual Trunk Service			
— Meridian 1 Attendant Console Enhancements (see also package 76)			
— Meridian 1 Initialization Prevention and Recovery			
— Modular Telephone Relocation			
— Multiple Appearance DN Redirection Prime			
— Multiple Console Operation			
— Night Service			
— North American Numbering Plan			
— Off-Hook Alarm Security			
— Off-Premise Extension			
— On-Hook Dialing			
— Out-of-Service Unit			
— Overlay Cache Memory			
— Override			
— Paging			
— Predictive Dialing			
— Privacy			
— Privacy Override			
— Privacy Release			
— Private Line Service			
— Public Switched Data Service			
— QCW and M1250 Attendant Console Capabilities			

Package Name	Number	Mnemonic	Release
— Recall to Same Attendant			
— Recorded Telephone Dictation			
— Recovery on Misoperation of Attendant Console			
— Reference Clock Switching			
— Restricted Call Transfer			
— Ring Again on No Answer (see also package 148)PBX (500/2500) Telephones			
— 500/2500 Line Disconnect			
— Secretarial Filtering			
— Selectable Conferee Display and Disconnect			
— Serial Port Expansion			
— Short Buzz for Digital Telephones			
— Short Memory Test			
— SL-1 Telephones			
— Speed Call on Private Lines (see also package 1)			
— Speed-Up Data Dump			
— Station-to-Station Calling			
— System Capacity Enhancements			
— Telephones (PBX and SL-1)			
— Tones, Flexible Incoming			
— Trunk to Trunk Connections			
— Trunk Traffic Reporting Enhancement			
— Uninterrupted Line Connection			
— Voice Call			

Package Name	Number	Mnemonic	Release
— 16 Concurrent Ringers			
— PBX (500/2500) Telephones			
— 500/2500 Line Disconnect			
Basic Queuing	28	BQUE	1
— Basic Queuing			
Basic Rate Interface	216	BRI	18
— Integrated Services Digital Network Basic Rate Interface (see also packages 216, and 235)			
BRI line application	235	BRIL	18
— Integrated Services Digital Network Basic Rate Interface (see also packages 216, and 233)			
— ISDN Basic Rate Interface Connected Line Presentation/Restriction			
Basic Routing	14	BRTE	1
— Basic Routing			
Boss Secretary Filtering (FFC activation)	198	FTCSF	15
— Flexible Feature Code Boss Secretarial Filtering			
Busy Tone Detection	294	BTD	21
— China Phase II – Busy Tone Detection			
— Busy Tone Detection for Asia Pacific and CALA			
Call-by-Call Service	117	CBC	13
— Call-by-Call Service			

Package Name	Number	Mnemonic	Release
Call Detail Recording	4	CDR	1
— Call Detail Recording			
— Call Detail Recording Enhancement			
— Call Detail Recording on Redirected Incoming Calls			
— Call Detail Recording with Optional Digit Suppression			
— Call Detail Recording 100 Hour Call			
— NPI and TON in CDR Tickets			
Call Detail Recording Enhancement	259	CDRX	20
— Call Detail Recording Enhancement			
Call Detail Recording Expansion (7 digit)	151	CDRE	13
— Call Detail Recording Expansion			
Call Detail Recording, Data Link	6	CLNK	1
Call Detail Recording on Teletype Terminal	5	CTY	1
— CDR on TTY			
Call Detail Recording Queue Record	83	CDRQ	3
— ACD CDR Queue Record			
Call ID (for AML applications)	247	CALL ID	19
— Call Identification			
Call Page Networkwide	307	PAGENET	22
— Call Page Network Wide			
Call Park	33	CPRK	2
— Call Park			
— Recall after Parkin			
Call Park Networkwide	306	CPRKNET	22
— Call Park Network Wide			

Package Name	Number	Mnemonic	Release
Call Processor Input/Output (Option 81) — Call Processor Input/Output)	298	CPIO	21
Called Party Control on Internal Calls — China Phase III - Called Party Control on Internal Calls	310	CPCI	22
Calling line Identification in Call Detail Recording — Calling Line Identification in Call Detail Recording	118	CCDR	13
Calling Party Name Display — Call Party Name Display — DNIS Name Display (see also packages 98, and 113)	95	CPND	10
Calling Party Privacy — Calling Party Privacy	301	CPP	21
Call Waiting Notification (Meridian 911) — Call Waiting Notification (Meridian 911)	225	CWNT	19
Centralized Attendant Services (Main) — Centralized Attendant Services - Main	26	CASM	1
Centralized Attendant Services (Remote) — Centralized Attendant Services – Remote	27	CASR	1
Charge Account for CDR — Charge Account and Calling Party Number	23	CHG	1
Charge Account/Authorization Code — Charge Account/Authorization Code Base	24	CAB	1
China Attendant Monitor Package — China – Attendant Monitor	285	CHINA	21
China Toll Package — China Phase II – Toll Call Loss Plan	292	CHTL	21

Package Name	Number	Mnemonic	Release
CLASS Calling Name Delivery — CLASS	333	CNAME	23
CLASS Calling Number Delivery — CLASS	332	CNUMB	23
Collect Call Blocking — Collect Call Blocking	290	CCB	21
Command Status Link — Command Status Link	77	CSL	8
Commonwealth of Independent States Multifrequency Shuttle Signaling — CIS Multifrequency Shuttle Signaling	326	CISMFS	23
Commonwealth of Independent States Trunks — Commonwealth of Independent States Digital Trunk Interface	221	CIST	21
— Three-Wire Analog Trunk – CIS			24
— Commonwealth of Independent States Automatic Number Identification (ANI) Digits Manipulation and Gateways Enhancements			24
— Commonwealth of Independent States Automatic Number Identification (ANI) Reception			24
— Commonwealth of Independent States Toll Dial Tone Detection			24
Console Operations — Console Operations	169	COOP	14
Console Presentation Group — Console Presentation Group Level Services	172	CPGS	15
Controlled Class Of Service — Controlled Class of Service	81	CCOS	7

Package Name	Number	Mnemonic	Release
Coordinated Dialing Plan	59	CDP	1
— Coordinated Dialing Plan			
Core Network Module	299	CORENET	21
— Core Network Module			
CSL with Alpha Signalling	85	CSLA	8
Customer Controlled Routing	215	CCR	17
— Customer Controlled Routing			
— MFC Interworking with AML Based Applications (see also packages 128, and 214)			
Deluxe Hold	71	DHLD	4
— Call Hold, Deluxe			
— Call Hold, Individual Hold Enhancement			
Departmental Listed Directory Number	76	DLDN	5
Dial Intercom	21	DI	1
— Dial Intercom			
— Distinctive Ringing for Dial Intercom			
Dial Tone Detector	138	DTD	10
— Dial Tone Detection			
— Flexible Dial Tone Detection			
Dialed Number Identification System	98	DNIS	10
— Dialed Number Identification Services			
— Dialed Number Identification Services Length Flexibility			
— Dialed Number Identification Services Name Display (see also packages 95, and 131)			
— 7 Digit DNIS for MAX			
— N Digit DNIS			24

Package Name	Number	Mnemonic	Release
Digit Display	19	DDSP	1
— Digit Display			
Digit Key Signaling	180	DKS	1
Digital Access Signaling System 2	124	DASS2	16
— Analog Private Network Signaling System (APNSS) (see also packages 190, 122, and 123)			
— DASS2/DPNSS1 – Integrated Digital Access (see also packages 122, and 123)			
Digital Private Network Signaling System 1	123	DPNSS	16
— Analog Private Network Signaling System (APNSS) (see also packages 190, 122, and 124)			
— DASS2/DPNSS1 – Integrated Digital Access (see also packages 122, and 124)			
Digital Private Network Signaling System 1 Message Waiting Indication	325	DMWI	23
— DPNSS1 Message Waiting Indication			

Package Name	Number	Mnemonic	Release
Digital Private Network Signaling Network Services (DPNSS1)	231	DNWK	16
— Attendant Call Offer			
— Attendant Timed Reminder Recall and Attendant Third Party Service			
— Call Back when Free and Next Used			
— D-channel Handler Interface Expansion			
— Extension Three-Party Service			
— Loop Avoidance			
— Redirection			
— Route Optimization			
— Step Back on Congestion			
— Diversion			
— Night Service			
— Route Optimisation/MCDN Trunk Anti-Tromboning Interwor			
Direct Inward Dialing to TIE (Japan only)	176	DTOT	16
— Direct Inward Dialing to TIE			
Direct Inward System Access	22	DISA	1
— Call Park on Unsupervised Trunks			
— Direct Inward System Access			
— Direct Inward System Access on Unsupervised Trunks			
Direct Private Network Access	250	DPNA	21
— Direct Private Network Access			
Directed Call Pickup	115	DCP	12
— Call Pickup, Directed			
Directory Number Expansion (7 Digit)	150	DNXP	13
— Directory Number Expansion			

Package Name	Number	Mnemonic	Release
Distinctive Ringing	74	DRNG	4/9
— Distinctive/New Distinctive Ringing			
Do-Not-Disturb, Group	16	DNDG	1
— Do Not Disturb Group			
Do-Not-Disturb, Individual	9	DNDI	1
— Do Not Disturb			
— Network Individual Do Not Disturb (see also packages 127, and 159)			
End-To-End Signaling	10	EES	1
— Attendant End-to-End Signaling			
— End-to-End Signaling			
Enhanced ACD Routing	214	EAR	17
— Enhanced Automatic Call Distribution Routing			
— MFC Interworking with AML Based Applications (see also packages 128, and 215)			
Enhanced Call Trace	215	ECT	18
— Customer Controlled Routing			
— MFC Interworking with AML Based Applications (see also packages 128, and 214)			
Enhanced Controlled Class of Service	173	ECCS	15
Enhanced DPNSS1 Gateway	284	DPNSS189I	20
— Enhanced DPNSS1 Gateway			
Enhanced DPNSS Services	288	DPNSS_ES	21
— DPNSS1 Executive Intrusion			
Enhanced Hot Line	70	HOT	4/10
— Hot Line			
— Network Intercom			

Package Name	Number	Mnemonic	Release
Enhanced Music	119	EMUS	12
— Music, Enhanced			
Enhanced Night Service	133	ENS	20
— Enhanced Night Service			
Euro ISDN	261	EURO	20
— ISDN – Advice of Charge for EuroISDN			
— ISDN BRI and PRI Trunk Access for Europe (EuroISDN)			
— EUROISDN Continuation			
Euro ISDN Trunk - Network Side	309	MASTER	22
— EuroISDN Trunk - Network Side			
Euro Supplementary Service	323	ETSI_SS	22
— EuroISDN Call Completion Supplementary Service			
Emergency Services Access	329	ESA	23
— Emergency Services Access (See also packages 330 and 331)			
Emergency Services Access Calling Number Mapping	331	ESA_CLMP	23
— Emergency Services Access (See also packages 329 and 330)			
Emergency Services Access Supplementary	330	ESA_SUPP	23
— Emergency Services Access (See also packages 329 and 331)			
Executive Distinctive Ringing	185	EDRG	16
— Executive Distinctive Ringing			
Fast Tone and Digit Switch	87	FTDS	7
— Fast Tone Digit Switch			

Package Name	Number	Mnemonic	Release
Feature Group D	158	FGD	17
— Feature Group D (Inbound to Meridian 1)			
FCC Compliance for DID Answer Supervision	223	FCC68	17
— Federal Communications Commission Compliance for DID Answer Supervision			
Flexible Call Back Queuing	61	FCBQ	1
— Flexible Call Back Queuing			
Flexible Direct Inward Dialing	362	FDID	24
— Flexible Direct Inward Dialing			
Flexible Feature Codes	139	FFC	15
— Call Forward/Hunt Override Via Flexible Feature Code			
— China Number 1 Signaling – Flexible Feature Codes			
— Dial Access to Group Calls (see also package 48).			
— Direct Inward Dialing Call Forward No Answer Timer			
— Electronic Lock Network Wide/Electronic Lock on Private Lines			
— Flexible Feature Codes			
— Automatic Wake FFC Delimiter			
— Call Forward Destination Deactivatio			
Flexible Numbering Plan	160	FNP	14
— Alternative Routing for DID/DOD			
— Flexible Numbering Plan			
— Special Dial Tones after Dialed Numbers			
— Flexible Numbering Plan Enhancement			

Package Name	Number	Mnemonic	Release
Flexible Tones and Cadences	125	FTC	16
— Flexible Tone and Digit Switch Control			
— Reverse Dial on Routes and Telephones			
— Tones and Cadences			
Forced Charge Account	52	FCA	1
— Charge Account, Forced			
French Type Approval	197	FRTA	15
— Camp-on to a Set in Ringback or Dialing			
— Forward No Answer Call Waiting Direct Inward Dialing			
— Group Hunt Queuing (see also package 120)			
— Group Hunt Queuing Limitation Enhancement (see also package 120)			
— Loopback on Central Office Trunks			
Group Call	48	GRP	1
— Dial Access to Group Calls (see also package 139).			
— Group Call			
Group Hunt/DN Access to SCL	120	PLDN	15
— Group Hunt Queuing (see also package 197)			
— Group Hunt Queuing Limitation (see also package 131)			
— Group Hunt Queuing Limitation Enhancement (see also package 197)			
— Group Hunt			
— Speed Call Directory Number Access			
HiMail Fax Server	195	FAXS	18
History File	55	HIST	1
— History File			
Hold in Queue for IVR	218	IVR	18

Package Name	Number	Mnemonic	Release
Hospitality Management	166	HOSP	16
Hospitality Screen Enhancement	208	HSE	17
— Hospitality Enhancements: Display Enhancements			
Incoming DID Digit Conversion	113	IDC	12
— China Number 1 Signaling Trunk Enhancements (see also packages 49, 128, and 131)			
— DNIS Name Display (see also packages 95, and 98)			
— Incoming DID Digit Conversion			
Integrated Digital Access	122	IDA	16
— Analog Private Network Signaling System (APNSS) (see also packages 190, 123, and 124)			
— DASS2/DPNSS1 – Integrated Digital Access (see also packages 123 and 124)			
— DPNSS1 Satellite			
— DASS2/DPNSS INIT Call Cutoff			
Integrated Message System	35	IMS	2
UST and UMG are part of IMS Package.			
— Integrated Messaging System Link			
Integrated Services Digital Network	145	ISDN	13
— Backup D-Channel to DMS-100/250 and AT&T 4ESS			
— Call Pickup Network Wide			
— D-Channel Error Reporting and Monitoring			
— Integrated Services Digital Network (ISDN) Primary Rate Interface			
— Network Name Display (Meridian 1 to DMS-100/250)			
— Total Redirection Count			
— T309 Time			

Package Name	Number	Mnemonic	Release
Integrated Services Digital Network Application Module Link for Third Party Vendors	153	IAP3P	13
— Application Module Link			
— Network Application Protocol Link Enhancement			
Integrated Services Digital Network BRI Trunk Access	233	BRIT	18
— Integrated Services Digital Network Basic Rate Interface (see also packages 216, and 235)			
Integrated Services Digital Network Signaling Link	147	ISL	13
— Call Connection Restriction (see also packages 146 and 161)			
Integrated Services Digital Network Supplementary Features	161	ISDN INTL-SUP	14
— Call Connection Restriction (see also packages 146 and 147)			
— Direct Inward Dialing to Network Calling			
— Incoming Digit Conversion Enhancement			
— Network Time Synchronization			
— X08 to X11 Gateway			
ISDN Semi-Permanent Connection	313	ISPC	22
— ISDN Semi-Permanent Connections for Australia			
Inter-Exchange Carrier	149	IEC	13
— Inter Exchange Carrier			

Package Name	Number	Mnemonic	Release
Intercept Computer Interface	143	ICP	10
— Intercept Computer Dial from Directory			
— Intercept Computer Enhancements			
— Intercept Computer Flexible DN Length			
— Intercept Computer Interface			
— Intercept Computer Meridian Mail Interactions			
— Intercept Computer Network Screen Activation, Flexible DN, Meridian Mail Interactions			
Intercept Treatment	11	INTR	1
— Intercept Treatment			
Internal CDR	108	ICDR	10
— Internal Call Detail Recording			
International nB+D	255	INBD	20
— ISDN PRI D70 Trunk Access for Japan (nB+D)			
International Primary Rate Access	202	IPRA	15
— Integrated Services Access/Call by Call Service Selection Enhancements			
— Integrated Services Digital Network Primary Rate Access to 1TR6 Connectivity			
— Integrated Services Digital Network Primary Rate Access to NUMERIS Connectivity			
— Integrated Services Digital Network Primary Rate Access to SwissNet 2 Connectivity			
— Integrated Services Digital Network Primary Rate Access to SYS-12 Connectivit			
International Supplementary Features	131	SUPP	9
— Advice of Charge Real-time Supplementary Services for NUMERIS and SWISSNET (see also package 101)			

Package Name	Number	Mnemonic	Release
— Advice of Charge – Charging Information and End of Call for NUMERIS Connectivity (see also package 101)			
— Alternative Conference PAD Levels			
— Alternative Loss Plan			
— Alternative Loss Plan for China			
— Attendant Delay on Hold			
— Attendant Display of Speed Dial or Autodial			
— Attendant Recall with Splitting			
— Automatic Call Distribution Answer Time in Night Service			
— Automatic Call Distribution Call Delays (see also package 40)			
— Automatic Call Distribution Call Priority (see also package 40)			
— Automatic Call Distribution Call Waiting Thresholds (see also packages 40 and 41)			
— Automatic Call Distribution Calls on Hold (see also package 40)			
— Automatic Call Distribution Dynamic Queue Threshold (see also package 40)			
— Automatic Call Distribution Threshold Visual Indication (see also packages 40 and 41)			
— Automatic Guard Detection			
— Automatic Hold			
— B34 Dynamic Loss Switching (see also packages 164 and 203)			
— Call Forward Save on SYSLOAD			

Package Name	Number	Mnemonic	Release
— Call Forward to Trunk Restriction			
— Calling Party Name Display Denied			
— Camp-On			
— Camp-on to Multiple Appearance Directory Number			
— Card LED Status			
— Centralized Multiple Line Emulation			
— Charge Display at End of Call (see also package 101)			
— China Number 1 Signaling Enhancements			
— China Number 1 Signaling Trunk Enhancements (see also packages 49, 113, and 128)			
— China Number 1 Signaling – Toll Operator Break-In (see also Package 127)			
— Direct Inward Dialing to TIE Connection			
— Display of Calling Party Denied			
— End of Selection			
— End of Selection Busy			
— End-of-Dialing on Direct Inward/Outward Dialing Incoming Call Indicator Enhancement			
— Enhanced Maintenance (Patching)			
— First-Second Degree Busy Indication			
— First-Second Degree Busy Indication, ISDN			
— Flexible Attendant Call Waiting Thresholds			
— Flexible Busy Tone Timer			
— Flexible Key Assignment			

Package Name	Number	Mnemonic	Release
— Group Hunt Queuing Limitation (see also package 120)			
— Held Call Clearing			
— Hunting By Call Type			
— Incoming Call Indicator Enhancement			
— Intercept Treatment Enhancements			
— Italian Central Office Special Services (see also packages 129, and 157)			
— Lockout, DID Second Degree Busy and MFE Signaling Treatments			
— LOGIVOX Telephone			
— Loop Start Answer Supervision XUT			
— Loop Start Supervisory Trunks (Incoming Calls)			
— Malicious Call Trace on Direct Inward Dialing			
— Manual Service Recall to Attendant			
— Multi-Party Operation Enhancements			
— Night Restriction Classes of Service			
— Night Service Enhancements – All Calls Remain Queued for Night Service			
— Night Service Enhancements – Recall to Night DN			
— Night Service Enhancements – Requeuing of Attendant Present Calls			
— Night Service Enhancements – Requeuing of Attendant Present Calls			
— Overlay 45 Limited Repeats			
— Partial Dial Timing			

Package Name	Number	Mnemonic	Release
— Periodic Camp-on Tone			
— Periodic Clearing			
— Periodic Clearing Enhancement			
— Periodic Clearing on RAN, Meridian Mail, ACD, and Music			
— Position Busy with Call on Hold			
— Preventing Reciprocal Call Forward			
— Recall to Same Attendant			
— Recall With Priority during Night Service			
— Recall With Priority during Night Service Network Wide			
— Recall with Priority during Night Service			
— Recovery of Misoperation on the Attendant Console			
— Reference Clock Switching (see also packages 75, 129, and 154)			
— Restricted Direct Inward Dialing Class of Service			
— Ring and Hold Lamp Status			
— Ringback Tone from Meridian 1 Enhancement			
— Secrecy Enhancement			
— Seizure Acknowledgment			
— Selectable Directory Number Size			
— Single Digit Access to Hotel Services			
— Slow Answer Recall Enhancement			
— Slow Answer Recall for Transferred External Trunks			

Package Name	Number	Mnemonic	Release
— Source Included when Attendant Dials			
— Special Signaling Protocols			
— Special Trunk Support			
— Speed Call Directory Number Access			
— Teletype Terminal Access Control in Multi-Customer Environment (see also package 164)			
— Telset Call Timer Enhancement			
— Tone to Last Party			
— Variable Flash Timing and Ground Button			
— Variable Guard Timing			
International Primary Rate Access (CO)	146	PRA	13
— Call Connection Restriction (see also packages 147 and 161)			
— Integrated Services Digital Network Primary Rate Access			
— Integrated Services Digital Network Primary Rate Access Central Office Connectivity to Japan D70			
International 1.5/2.0 Mb/s Gateway	167	GPRI	18
— Radio Paging			
Japan Central Office Trunks	97	JPN	9
— Japan Central Office Trunk			
Japan Digital Multiplex Interface	136	JDMI	14
— Japan Digital Multiplex Interface			
Japan Telecommunication Technology Committee	335	JTTC	23
— Japan TTC Common Channel Signaling			
Japan Tone and Digit Switch	171	JTDS	14
— Japan Tone and Digit Switch			

Package Name	Number	Mnemonic	Release
Last Number Redial	90	LNR	8
— Last Number Redial			
Latin American Spanish	279	MLMS_SPL	20
— Latin American Spanish			
Limited Access to Overlays	164	LAPW	16
— B34 Dynamic Loss Switching (see also packages 131 and 203)			
— Faster I/O			
— Limited Access to Overlays			
— Limited Access to Overlays Password Enhancement			
— Teletype Terminal Access Control in Multi-Customer Environment (see also package 131)			
Line Load Control	105	LLC	10
— Line Load Control			
Local Steering Code Modifications	137	LSCM	10
— Local Steering Code Modifications			
Maid Identification	210	MAID	17
— Maid Identification			
Make Set Busy	17	MSB	1
— Make Set Busy			
— Make Set Busy Improvement			
Malicious Call Trace	107	MCT	10
— Enhanced Malicious Call Trace			
— Malicious Call Trace			
— Malicious Call Trace DN/TN Print			
— Malicious Call Trace Idle			
MAT 5.0	296	MAT	22

Package Name	Number	Mnemonic	Release
Meridian 1 Companion Option	240	MCMO	19
— Meridian 1 COMPANION			
— Meridian Companion Enhanced Capacity			24
Meridian 1 Microcellular Option	303	MMO	22
Meridian 1 Mobility Multi-Site Networking	314	MMSN	22
Meridian Hospitality Voice Service	179	HVS	16
— Meridian Hospitality Voice Services			
Meridian Link Modular Server	209	MLM	16
— Meridian Link Enhancements			
Meridian SL-1 ST Package	96	SLST	9
— Meridian SL-1 ST Package			
Meridian 1 Enhanced Conference, TDS and MFS	204	XCT0	15
— Meridian 1 Enhanced Conference, TDS and MFS			
Meridian 1 XPE	203	XPE	15
— B34 Codec Static Loss Plan Downloading			
— B34 Dynamic Loss Switching (see also packages 131, and 164)			
— Extended Multifrequency Compelled Sender/Receiver			
— Extended Tone Detector and Global Parameters Download (see also package 205)			
— Intelligent Peripheral Equipment Software Support Enhancements			
Meridian 1 Fault Management	243	ALRM_FILTER	19
— Alarm Management			
Meridian 1 Packet Handler	248	MPH	19
— Meridian 1 Packet Handler			

Package Name	Number	Mnemonic	Release
Meridian 1 Superloop Administration (LD 97)	205	XCT1	15
— Extended DID/DOD Software Support – Europe			
— Extended Flexible Central Office Trunk Software Support			
— Extended Tone Detector and Global Parameters Download (see also package 203)			
— Generic XFCOT Software Support			
Meridian 911	224	M911	19
— Meridian 911 Enhancements – Call Abandon			
— Meridian 911 Enhancements – MADN Display Coordination			
Message Intercept	163	MINT	15
— Message Intercept			
Message Waiting Center	46	MWC	1
— Message Waiting Lamp Maintenance			
— Message Waiting Unconditional			
— Meridian Mail Trunk Access Restriction			
Message Waiting Indication Interworking with DMS	219	MWI	19
— Message Waiting Indication (MWI) Interworking			
Mini CDR	31	MCDR	1
Mobility Server	302	MOSR	22

Package Name	Number	Mnemonic	Release
Multifrequency Compelled Signaling	128	MFC	9
— China Number 1 Signaling Trunk Enhancements (see also packages 49, 113, and 131)			
— China Number 1 Signaling – Active Feature Dial Tone (see also package 126)			
— China Number 1 Signaling – Audible Alarm (see also package 126)			
— China Number 1 Signaling – Vacant Number Announcement (see also package 126)			
— India Phase 2			
— R2 Multifrequency Compelled Signaling (MFC) DID/DTMF DOD			
— R2 Multifrequency Compelled Signaling (MFC) Selective Route To Attendant			
— MFC Interworking with AML Based Applications (see also packages 214 and 215)			
— R2Multifrequency Compelled Signaling Timer Control			
— Semi-Compelled MFC and Calling Name Identification Charges			
Multifrequency Signaling for Socotel	135	MFE	10
— Multifrequency Signaling for Socotel			
Multi-Language I/O Package	211	MLIO	16
— Multi-language TTY Input/Output			
Multi-Language Wake Up	206	MLWU	16
— Multi-language Wake Up			
Multi-Party Operations	141	MPO	20
— Attendant Clearing during Night Service			
— Multi-Party Operations			
Multi-purpose Serial Data Link	222	MSDL	18
— Multi-purpose Serial Data Link			

Package Name	Number	Mnemonic	Release
Multi-purpose Serial Data Link Serial Data Interface	227	MSDL SDI	19
— Multi-purpose Serial Data Link Serial Data Interface			
Multi-purpose Serial Data Link Single Terminal Access	228	MSDL STA	19
— Single Terminal Access			
Multi-User Login	242	MULTI_USER	19
— Multi-User Login			
Multiple-Customer Operation	2	CUST	1
— Multiple Customer Operation			
Multiple Queue Assignment	297	MQA	21
— Multiple Queue Assignment			
Multiple-Tenant Service	86	TENS	7
— Multi-Tenant Service			
Music	44	MUS	1
— Music			
Music Broadcast	328	MUSBRD	23
— Music Broadcast			
M2000 Digital Sets	88	DSET	7
— Distinctive Ringing for Digital Telephones			
— M2312 Digit Display			
— M2317 Telephones			
— Flexible Voice/Data Terminal Number			
M2250 Attendant Console	140	DCON	15
— Digital Attendant Console			
M2317 Digital Sets	91	DLT2	9
— M2317 Digital Sets			

Package Name	Number	Mnemonic	Release
M3000 Digital Sets	89	TSET	7
— M3000 Telephones			
N/W Communications Management Center	30	CMAC	1
Network Alternate Route Selection	58	NARS	1
— Equi-distribution Network Attendant Service Routing (see also package 159)			
— Network Alternate Route Selection/Basic Alternate Route Selection Enhancement – Local Termination (see also package 57)			
— Network Anti-tromboning			
— Virtual Network Services/Virtual Directory Number Expansion (see also package 183)			
Network Call Back Queuing	38	MCBQ	2
— Network Call Back Queuing			
Network Automatic Call Distribution	207	NACD	15
— Network Automatic Call Distribution			
Network Attendant Service	159	NAS	20
— Equi-distribution Network Attendant Service Routing (see also package 58)			
— Network Individual Do Not Disturb (See also packages 9 and 127).			
Network Authorization Code	63	NAUT	1
— Network Authorization Code			
Network Class Of Service	32	NCOS	1
— Network Class of Service			
Network Priority Queuing	60	PQUE	1
— Network Priority Queuing			

Package Name	Number	Mnemonic	Release
New Flexible Code Restriction	49	NFCR	2
— China Number 1 Signaling Trunk Enhancements (see also packages 113, 128, and 131)			
— New Flexible Code Restriction			
New Format CDR	234	FCDR	18
— Call Detail Recording Time to Answer			
— CDR on Busy Tone			
Next Generation Connectivity	324	NGEN	22
Network Call Transfer	67	NXFR	3
Network Message Services	175	NMS	16
Network Speed Call	39	NSC	2
— Network Speed Call			
Network Signaling	37	NSIG	2
— Network Signaling			
Network Traffic Measurements	29	NTRF	1
— Network Traffic Measurement			
NI-2 Call By Call Service Selection	334	NI-2 CBC	23
Nortel Symposium Call Center	311	NGCC	22
North America National ISDN Class II Equipment	291	NI2	21
Office Data Administration System	20	ODAS	1
— Office Data Administration System			
On Hold On Loudspeaker	196	OHOL	20
Off-Hook Queuing	62	OHQ	1
— Network Drop Back Busy and Off-hook Queuing (see also package 192)			
Optional Outpulsing Delay	79	OOD	5
— Optional Outpulsing Delay			

Package Name	Number	Mnemonic	Release
Outpulsing, asterisk (*) and octothorpe (#)	104	OPAO	
— Outpulsing of Asterisk "*" and Octothorpe "#"			
Operator Call Back (China #1)	126	OPCB	14
— Busy Verify on Calling Party Control Calls			
— China Number 1 Signaling – Active Feature Dial Tone (see also package 128)			
— China Number 1 Signaling – Audible Alarm (see also package 128)			
— China Number 1 Signaling – Called Party Control			
— China Number 1 Signaling – Calling Number Identification on Outgoing Multifrequency Compelled Signaling			
— China Number 1 Signaling – Calling Party Control			
— China Number 1 Signaling – Flexible Timers			
— China Number 1 Signaling – KE Multifrequency Compelled Tandem Signaling			
— China Number 1 Signaling – Malicious Call Trace Enhancement			
— China Number 1 Signaling – Off-hook Tone			
— China Number 1 Signaling – Toll Call Identification			
— China Number 1 Signaling – Toll Operator Call Back			
— China Number 1 Signaling – Toll Operator Call Back Enhancement			
— China Number 1 Signaling – Vacant Number Announcement (see also Package 128)			
Open Alarms	315	OPEN ALARM	22

Package Name	Number	Mnemonic	Release
Optional Features	1	OPTF	1
— Autodial			
— Call Forward All Calls			
— Ring Again			
— Speed Call			
— Speed Call on Private Lines (see also package 0)			
— Speed Call/Autodial with Authorization Codes (see also package 34)			
— Speed Call Delimiter (see also package 34)			
Originator Routing Control	192	ORC_RVQ	18
— Network Drop Back Busy and Off-hook Queuing (see also package 62)			
— Remote Virtual Queuing			
Overlap Signaling (M1 to M1 and M1 to 1TR6 CO)	184	OVLP	15
— Overlap Signaling			
Pretranslation	92	PXLT	8
— Pretranslation			
PPM/Message Registration	101	MR	10
— Advice of Charge Real-time Supplementary Services for NUMERIS and SWISSNET (see also package 131)			
— Advice of Charge – Charging Information and End of Call for NUMERIS Connectivity (see also package 131)			
— Message Registration			
— Periodic Pulse Metering			
Pulsed E&M (Indonesia, French Colisée)	232	PEMD	18
— Pulsed E&M DTI2 Signaling			
Phantom TN	254	PHTN	20
— Phantom TNs			

Package Name	Number	Mnemonic	Release
Property Management System Interface	103	PMSI	10
— Property Management System Interface			
Priority Override/Forced Camp-On	186	POVR	20
— Forced Camp-on and Priority Override			
Q Reference Signaling Point Interface	263	QSIG	20
— Integrated Services Digital Network QSIG Basic Call			
QSIG Generic Functional protocol	305	QSIG GF	22
— ISDN QSIG Generic Functional Transport			
QSIG Supplementary Service	316	QSIG-SS	22
— ISDN QSIG Call Completion			
— ISDN QSIG Call Diversion Notification			
— ISDN QSIG Path Replacement			
Radio Paging	187	RPA	15
— Radio Paging			
— Radio Paging Product Improvements			
Recorded Announcement	7	RAN	1
— Recorded Announcement			
Recorded Announcement Broadcast	327	RANBRD	23
— Recorded Announcement Broadcast			
Ringling Change Key	193	RCK	15
— Ringling Change Key			
Remote IPE	286	REMOTE_IPE	
— Remote Intelligent Peripheral Equipment			
Room Status	100	RMS	10
— Room Status			

Package Name	Number	Mnemonic	Release
Recorded Overflow Announcement	36	ROA	2
— Recorded Overflow Announcement			
Resident Debug	82	RSDB	9
Remote Virtual Queuing	192	RVQ	18
— Network Drop Back Busy and Off-hook Queuing (see also package 62)			
— Remote Virtual Queuing			
Scheduled Access Restrictions	162	SAR	20
— Scheduled Access Restrictions			
Semi-Automatic Camp-On	181	SACP	15
— Attendant Blocking of Directory Number			
— Attendant Idle Extension Notification			
— Semi-Automatic Camp-On			
Single Term Access	228	STA	19
— Single Term Access			
Series Call	191	SECL	15
— Series Call			
Set Relocation	53	SR	1
— Automatic Set Relocation			
Standalone Meridian Mail	262	SAMM	20
— Meridian Mail, Standalone			
Station Activity Records	251	SCDR	20
— Station Activity Records			
Station Category Indication	80	SCI	7
— Station Category Indication			
Station Camp-On	121	SCMP	20
— Station Camp-On			

Package Name	Number	Mnemonic	Release
Station Loop Preemption	106	SLP	10
Station Specific Authorization Codes	229	SSAU	19
— Station Specific Authorization Code			
Stored Number Redial	64	SNR	3
— Stored Number Redial			
Spanish KD3 DID/DOD interface	252	KD3	20
— KD3 Direct Inward Dialing/Direct Outward Dialing for Spain			
Supervisory Attendant Console	93	SUPV	8
— Supervisory Attendant Console			
Supervisory Console Tones	189	SVCT	20
System Errors and Events Lookup	245	SYS_MSG_ LKUP	19
— System Message Lookup			
System Speed Call	34	SSC	2
— Speed Call/Autodial with Authorization Codes (see also package 1)			
— Speed Call, System			
— Speed Call Delimiter (see also package 34)			
Time and Date	8	TAD	1
— Time and Date			
Tone Detector	65	TDET	7
— Tone Detector			
Tone Detector Special Common Carrier	66	SCC	7
Trunk AntiTromboning	293	TAT	21
— Trunk Anti-Tromboning			
Trunk Barring	132	TBAR	20
— Trunk Barring			

Package Name	Number	Mnemonic	Release
Trunk Failure Monitor	182	TFM	15
— Trunk Failure Monitor			
— Trunk Failure Monitor Enhancement			
Trunk Hook Flash (Centrex)	157	THF	14
— Centrex Switchhook Flash			
— Italian Central Office Special Services (see also packages 129, and 131)			
Traffic Monitoring	168	TMON	
Trunk Verification from Station	110	TVS	9.32
— Trunk Verification from a Station			
Universal ISDN Gateways	283	UIGW	20
— Universal ISDN Gateway			
United Kingdom	190	UK	16
— Analog Private Network Signaling System (APNSS) (see also packages 122 123, and 124)			
— UK Analogue Hardware Support			
VIP Auto Wake Up	212	VAWU	17
— Hospitality Enhancements: V.I.P. Auto Wake Up			
Virtual Network Services	183	VNS	16
— Virtual Network Services			
— Virtual Network Services/Virtual Directory Number Expansion (see also package 58)			
Voice Mailbox Administration	246	VMBA	19
— Meridian Mail Voice Mailbox Administration			
X08 to X11 Gateway	188	L1MF	15
— X08 to X11 Gateway			

Package Name	Number	Mnemonic	Release
1.5 Mbit Digital Trunk Interface	75	PBXI	5
— Hong Kong Digital Trunk Interface			
— Reference Clock Switching (See also packages 129, 131, and 154)			
1.5 Mbit Remote Peripheral Equipment	15	RPE1.5	1
— Remote Peripheral Equipment			
16-Button Digitone/Multifrequency Telephone	144	ABCD	14
— 16-Button Digitone/Multifrequency Operation			
2.0 Mb/s Remote Peripheral Equipment	165	RPE2	15
— 2 Mbps Remote Peripheral Equipment			
— 2 Mbps Remote Peripheral Equipment Alarm Handling			
2.0 Mb/s Primary Rate Interface	154	PRI2	14
— Reference Clock Switching (see also packages 75, 129, and 131)			

Package Name	Number	Mnemonic	Release
2 Mbit Digital Trunk Interface	129	DTI2	10
— DID Recall features on DTI2 for Italy – DID Offering			
— DID Recall features on DTI2 for Italy – DID Recall			
— Italian Central Office Special Services (see also packages 131, and 157)			
— Italian Periodic Pulse Metering			
— Pulsed E&M DTI2 Signaling			
— Reference Clock Switching (see also packages 75, 131, and 154)			
— R2MFC 1.5 Mbps DTI			
— 2 Mbps Digital Trunk Interface			
• 2 Mbps Digital Trunk Interface Enhancements:			
• Alarm Handling on DID Channels			
• Alarm Handling on Incoming COT/DID Calls			
• Call Clearance			
• Clock Synchronization			
• DID Call Offering			
• Disable Out-of-Service Alarm State			
• Fault Signal			
• Incoming Seizure			
• Outpulsing Delay			
• Release Control			
• Signal Recognition			
• Trunk Entering Alarm Status/Trunk Pack Exiting Alarm Status			
• 64 Kbps Alarm Indication Signal (AIS) Handling			
500 Set Dial Access to Features	73	SS5	4
— 500 Set Features			

Package Name	Number	Mnemonic	Release
2500 Set Features	18	SS25	1
— Call Hold, Permanent			
— 2500 Set Features			

Access Restrictions

Access restrictions limit terminal access to the exchange network, private network, and certain services and features.

Access restrictions can be temporarily overridden by the use of other features, if equipped, including Forced Charge Account, Authorization Code, and System Speed Call.

During the call origination process, access checks are made by the Meridian 1 on the following:

- the Class of Service (CLS) of the individual terminal
- the Trunk Group Access Restriction (TGAR) code of the terminal if a direct trunk access code is dialed or as an optional feature when a Basic Alternate Route Selection (BARS) or Network Alternate Route Selection (NARS) access code is dialed
- the area and exchange codes dialed by terminals with Toll Denied or Conditionally Toll Denied Class of Service using direct trunk access codes and Code Restriction tables, and
- the Network Class of Service (NCOS) of the terminal if BARS/NARS or Coordinated Dialing Plan (CDP) access codes are dialed or if direct trunk access codes are dialed and New Flexible Code Restriction tables are programmed.

If any restrictions are detected when a call is placed, the call is given intercept treatment as defined in the Customer Data Block.

Class of Service restrictions

The Class of Service restrictions assigned to telephones and TIE trunks control the degree of access to and from external networks and certain features within the system. The eight possible Class of Service access restrictions are described in this feature module. These restrictions are applied by service change overlay programs to terminals. Table 1 lists the type of terminals and the corresponding overlay program.

Table 1
Type of terminal and corresponding overlay programs

Terminal Type	Overlay
Analog (500/2500 type) telephone	10
Meridian 1 proprietary telephones, Meridian Mail channels	11
Incoming TIE trunks	14
Authorization Codes	88
DISA ports	24

Descriptions of the eight Class of Service access restrictions follow, from the most restricted to the least restricted.

Fully Restricted Service

There are three levels of Fully Restricted Service:

— FR2

- allowed to originate and receive internal calls
- denied access to TIE and Common Controlled Switching Arrangement networks
- denied access to and from the exchange network, either by dialing, through an attendant, or using call modification from an unrestricted telephone

Call modification takes place when certain features are activated while a call is in progress (e.g., Call Park, Call Pickup, Call Transfer, Conference, or Night Answer).

— FR1

- allowed to originate and receive internal calls
- allowed access to TIE and CCSA networks
- denied access to and from the exchange network, either by dialing through an attendant or by using call modification from an unrestricted telephone

Note: In a networking environment, incoming and outgoing calls can be extended, via call modification, to a telephone with CLS = FR1.

If a telephone with CLS = FR1 is in a Multiple Appearance DN (MADN) arrangement, the call may be presented if at least one of the telephones has CLS = UNR. Once the call is presented it will ring all telephones in the MADN group. However, only UNR telephones can answer the call.

— FRE

- allowed to originate and receive internal calls
- allowed access to TIE and CCSA networks
- allowed access to and from the exchange network using call modification from an unrestricted telephone

- denied access (either by dialing or through an attendant) to and from the exchange network

Note: The FRPT prompt in LD 17 allows or denies access to incoming calls for FRE CLS telephones. It allows FRE calls to Call Pickup, Night Answer, and to receive modified calls.

The assignment of Incoming Call Indicator (ICI) keys allows the attendant to recognize which calls are fully restricted:

- DF0 = calls from FRE, FR1, and FR2 CLS, and
- DL0 = calls from CUN, CTD, TLD, SRE, and UNR CLS.

Semi-Restricted Service (SRE)

- allowed to receive calls from the exchange network
- restricted from all dial access to the exchange network
- allowed to access the exchange network through an attendant or an unrestricted telephone only

Toll Denied Service (TLD)

- allowed to receive calls from the exchange network
- allowed access to WATS trunks for toll calls using direct trunk access codes, unless New Flexible Code Restriction (NFCR) is programmed to deny certain digits
- denied from calls on Central Office/Foreign Exchange (CO/FX) trunks where 0 or 1 is dialed as a first or second digit following a direct trunk access code. Special numbers, such as 411, 611, and 911, are allowed by default unless restricted specifically by NFCR.
- denied from toll calls on CO/FX trunks when BARS or NARS access codes are dialed, unless NFCR tables allow the call
- allowed toll calls on WATS trunks using BARS or NARS access codes, unless NFCR tables deny digits
- allowed access to the toll exchange network through an attendant or an unrestricted telephone
- allowed toll calls and special number calls on TIE trunks, unless NFCR tables specifically deny certain digits. Direct trunk access to toll calls on TIE trunks is permitted, as well as BARS or NARS access.

Conditionally Toll Denied Service (CTD)

- allowed to receive calls from the exchange network
- allowed access to WATS trunks for toll calls using direct trunk access codes, unless New Flexible Code Restriction (NFCR) is programmed to deny certain digits
- denied from calls on CO/FX trunks where 0 or 1 is dialed as a first or second digit following a direct trunk access code (special numbers excepted). New Flexible Code Restriction tables can be used to deny or allow certain calls on these routes.
- allowed access to toll calls on CO/FX/WATS trunks placed using BARS or NARS or CDP access codes. NFCR tables, if programmed on the routes, are ignored for CTD users dialing Electronic Switched Network (ESN) access codes.
- allowed toll calls and special number calls on TIE trunks, unless NFCR tables specifically deny certain digits. Direct trunk access is permitted as well as BARS or NARS access. NFCR tables deny calls for these users only if direct TIE trunk access codes are used.

Conditionally Unrestricted Service (CUN)

- allowed access for calls placed through Automatic Number Identification (ANI) trunks
- denied access for all other types of outgoing calls

Unrestricted Service (UNR)

- allowed to originate and receive calls from the exchange network

The eight possible Class of Service access restrictions are described in Table 2.

Table 2
Class of Service chart

	UNR	CTD/CUN	TLD	SRE	FRE	FR1	FR2
Incoming trunk calls	Yes	Yes	Yes	Yes	No Yes, if using call modification. (See page 51.)	No	No
Outgoing non-toll trunk calls	Yes	Yes	Yes	No direct access Yes, if using attendant or UNR telephone	No direct access Yes, if using UNR telephone	No	No
Outgoing toll trunk calls (0 or 1+ on COT or FX)	Yes	No direct access Yes, if using BARS/NARS	No direct access Yes, if using attendant or UNR telephone	No direct access Yes, if using attendant or UNR telephone	No direct access Yes, if using UNR telephone	No	No
To/From TIE trunk	Yes	Yes	Yes	Yes	Yes	Yes	No
To/From internal	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BARS/NARS calls TGAR = No	Uses NCOS only	Uses NCOS only	Uses NCOS and CLS	Uses NCOS and CLS	Uses NCOS and CLS	Uses NCOS and CLS	Uses NCOS and CLS
BARS/NARS calls TGAR = Yes	Uses NCOS and TGAR	Uses NCOS and TGAR	Uses NCOS, CLS, and TGAR	Uses NCOS, CLS, and TGAR	Uses NCOS, CLS, and TGAR	Uses NCOS, CLS, and TGAR	Uses CLS only

Code Restriction

Code Restriction allows limited access to the toll exchange network to stations and TIE trunks with a Toll Denied Class of Service (TLD). A Code Restriction Block that specifies the allowed area and exchange codes (200 through 999) is built for each trunk route. This block restricts access to specific area and exchange codes by monitoring the digits dialed.

There can be only one Code Restriction Block per route. The only routes that use Code Restriction Blocks are Central Office Trunk (COT) and FX, since they are toll routes. Code Restriction Blocks are ignored for all other types of routes.

When a telephone or TIE trunk with a CTD, CUN, or TLD Class of Service directly access a COT or FX route, the system examines the Code Restriction Block to determine the call eligibility.

Special numbers 01, 011, 411, 611, 800, and 911 are allowed by default. These special numbers, however, can be restricted in the Code Restriction Block so that they cannot be dialed successfully.

Code Restriction Blocks only perform three-digit screening. For 1+ dialing areas, the system can ignore the 1 when examining the TLD telephone dialed number. The 1 is later outputted with the dialed number to complete the call successfully.

Trunk Group Access Restriction

Trunk Group Access Restriction (TGAR) controls access to the exchange network, TIE trunks, CCSA trunks, and paging and dictation services.

Telephones (LD 10, LD 11), TIE trunks (LD 14), Direct Inward System Access (DISA) trunks (LD 24), Meridian Mail channels (LD 11), and Authorization Codes (LD 88) are assigned a TGAR code, which is used to block access to certain trunk groups entirely.

As of X11 Release 13, there can be up to 32 TGAR codes in use on a system (0-31). Previous to Release 13, there were only 16 codes (0-15).

When a telephone or TIE trunk dials the access code to a trunk route, the system first checks the Class of Service of the terminal. If access is allowed, the TGAR is checked next. If the TGAR of the originating terminal matches one of the listed Trunk Access Restriction Group (TARG) codes programmed against the trunk group, access is denied. Intercept treatment is given to denied calls. A list of TARG codes can be programmed in LD 16 against each route, where applicable, to block access by certain terminals.

Optionally, the TGAR can be used to block access to certain routes even when a BARS or NARS access code is dialed and the route is being seized. To enable/disable the TGAR option, the TGAR prompt must be defined in the Electronic Switched Network (ESN) data block in LD 86.

When denied access because of TGAR, a user may still gain access to a route via the Attendant Console or an unrestricted terminal.

If the attendant uses the Trunk Group Busy (TGB) keys on the console to make trunk groups busy, terminals with TGAR code 0-7 are intercepted to the attendant when they access the route by dialing or try to gain access using ESN access codes. Terminals with TGAR code 8-31 continue to have access to the route, unaffected by the activation of the TGB keys.

By default, TGAR code 0 means the terminal has access to all routes.

The following example further explains Trunk Group Access Restrictions. Assume a customer has seven trunk routes:

TGAR	Access denied to routes
Route 0	COT
1	WATS
2	FX 1
3	FX 2
4	TIE 1
5	TIE 2
6	Paging

Assume the following seven TGAR codes are required:

TGAR	Access denied to routes
0	No restrictions (default)
1	0, 1, 2, 3, 4, 5, 6
2	2, 3, 4, 5
3	3, 4, 5
4	2, 6
5	3, 4, 5, 6
6	5, 6

The TGAR/TARG matrix summary is as follows:

Trunk Type	Route number	TARG Code
		0 1 2 3 4 5 6 7-31
COT	0	1
WATS	1	1
FX 1	2	1 2 4
FX 2	3	1 2 3 5
TIE 1	4	1 2 3 5
TIE 2	5	1 2 3 5 6
Paging	6	1 4 5 6

It follows from the matrix summary that a telephone or TIE trunk was assigned one of the following TGAR codes:

- 0 (has no restrictions)
- 1 (cannot access trunk routes 0 through 6)
- 2 (cannot access trunk routes 2 through 5)

- 3 (cannot access trunk routes 3 through 5)
- 4 (cannot access trunk routes 2 and 6)
- 5 (cannot access trunk routes 3 through 6)
- 6 (cannot access trunk routes 5 and 6)

Trunk signaling arrangements

Trunk-to-trunk connections are further controlled by the signaling and supervision arrangements assigned to each trunk. [Table 3](#) summarizes the trunk signaling arrangements.

Table 3
Trunk signaling arrangements

From	To		
	Trunk with/without disconnect supervision	Paging dictation trunk	Telephone (non-trunk)
Trunk with disconnect supervision	Yes	No	Yes
Trunk without disconnect supervision	No	No	Yes
RAN/Paging dictation trunk	No	No	No
Telephone	Yes	Yes	Yes
Note: Yes = connection allowed No = connection disallowed			

Two outgoing trunks cannot be connected unless a supervising party, local to the Meridian 1 system, is conferenced in the call. This is true regardless of the supervisions.

Transfer from a supervised trunk to a non-supervised loop start trunk is not permitted.

Operating parameters

If a conflict exists between the Class of Service (CLS) and Trunk Group Access Restrictions (TGAR), the access denied restriction takes precedence.

Access restrictions are applied through service change overlay programs. Access to telephone and trunk features is denied in the respective data block by allowing the system to default to a denial, by not entering the appropriate feature code, or by not assigning the feature to a key/lamp pair. You must enable the features and access restrictions you want, on a customer and telephone level.

Services such as paging and dictation can be restricted through TGAR codes, because the auxiliary equipment is linked to the Meridian 1 system by way of trunks.

Feature interactions

AC15 Recall: Timed Reminder Recall

With call modification, a trunk-to-trunk connection is controlled by signaling, recall capability and the supervision assigned to each trunk. For example, an established call from an unsupervised trunk cannot be transferred over another trunk.

When the AC15 Timed Reminder Recall feature is to be activated, an established call with an unsupervised trunk may be extended over an AC15 trunk because the connection is controlled before the called party answers by the AC15 recall timer.

Call Park

A call can be parked on any DN, regardless of its Class of Service. Access to a parked call is governed by the same Class of Service restrictions for normal trunk-to-telephone call processing. Table 4 details the restrictions. These restrictions can be overridden with the Authorization Code.

Table 4
Parked call access

Parked call type	Accessing telephone Class of Service		
	FRE	FR1	FR2
Telephone	allowed	allowed	allowed
CO/FX/WATS	denied	denied	denied
DID Trunk	denied	denied	denied
TIE trunk	allowed	allowed	denied

Call Pickup Network Wide

All access restrictions applicable to Network Alternate Route Selection (NARS)/Basic Alternate Route Selection (BARS) calls (including Class of Service, Network Class of Service, Trunk Barring (TBAR), and New Flexible Code Restriction (NFCR) restrictions based on digit manipulation) apply to a redirected call from the receiving node to the requesting node. This means that there are no limitations added to the access restriction checks for calls being redirected by the Call Pickup Network Wide feature.

If the call is blocked because of any of these access restrictions on either the receiving, tandeming, or requesting node, the originally called party is re-rung and the party attempting to pick up the call receives overflow tone.

Digital Private Network Signaling System (DPNSS1)/Digital Access Signaling System (DASS2) Uniform Dialing Plan (UDP) Interworking

The connection between the network user (extension or trunk) and the DPNSS1 UDP trunk can be barred based on the Class of Service Restrictions of the parties involved. The connection between the network user (extension or trunk) and the DPNSS1 trunk can also be barred based on the Trunk Group Access Restrictions feature. It is possible to bar the connection between originator and terminator through a DPNSS1 UDP trunk based on the DPNSS1 signaling information.

The Code Restriction sub-feature is not supported.

Direct Inward System Access

Access restrictions are assigned to the Direct Inward System Access (DISA) DN as they are to any station within the system. Separate access restrictions are also assigned to authorization codes used by DISA callers

Group Hunt

If a routing-associated DN is programmed in a group hunt list, the access restrictions based on the Class of Service and/or TGAR of the calling station/route apply.

ISDN QSIG/EuroISDN Call Completion

ISDN QSIG/EuroISDN Call Completion does not override Access, Call Restriction or Trunk Group Access restrictions. When Call Completion is activated, the second call has the same restrictions as the initial call that received either no answer or a busy indication.

New Flexible Code Restriction

The Code Restriction feature and New Flexible Code Restriction cannot be implemented simultaneously for the same customer.

Scheduled Access Restrictions

The Trunk Access Restriction Group (TARG) defined for each route is not altered by Scheduled Access Restrictions. Access to the route is denied to any telephone or trunk assigned a Trunk Group Access Restriction code that is part of the TARG.

Trunk Barring

Trunk Barring is at the top of the hierarchy for access restrictions.

Virtual Network Services

Any VNS call is subject to the same Class of Service restrictions as if the call was performed on a TIE trunk, regardless of the type of Bearer trunk used.

Trunk Group Access Restrictions (TGARs) do not apply to VNS, and therefore they never restrict a VNS call from being made.

Feature packaging

The Access Restrictions feature is included in base X11 system software.

Feature implementation

LD 10 – Assign a Class of Service and TGAR code for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	I s c u c u	Terminal Number. For Option 11C.
TGAR	X (0)-31	Station or trunk TGAR. X = remove TGAR value. Note: With X11 Release 12 and earlier, 0-15 TGAR codes are allowed.
CLS	(UNR) CUN TLD CTD SRE FRE FR1 FR2	Unrestricted (default). Conditionally Unrestricted. Toll Denied. Conditionally Toll Denied. Semi-Restricted. Fully Restricted. Fully Restricted 1. Fully Restricted 2.

LD 11 – Assign a Class of Service and TGAR code for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	I s c u c u	Terminal Number. For Option 11C.

TGAR	X (0)-31	Station or trunk TGAR. X = remove TGAR value. Note: With X11 Release 12 and earlier, 0-15 TGAR codes are allowed.
CLS	(UNR) CUN TLD CTD SRE FRE FR1 FR2	Unrestricted (default). Conditionally Unrestricted. Toll Denied. Conditionally Toll Denied. Semi-Restricted. Fully Restricted. Fully Restricted 1. Fully Restricted 2.

LD 14 – Assign a Class of Service and TGAR code for TIE trunks.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	TIE ISA CSA	Trunk type.
TN	l s c u c u	Terminal Number. For Option 11C.
TGAR	X (0)-31	Station or trunk TGAR. X = remove TGAR value. Note: With X11 Release 12 and earlier, 0-15 TGAR codes are allowed.
CLS	(UNR) CUN TLD CTD SRE FRE FR1 FR2	Unrestricted (default). Conditionally Unrestricted. Toll Denied. Conditionally Toll Denied. Semi-Restricted. Fully Restricted. Fully Restricted 1. Fully Restricted 2.

LD 88 – Assign a Class of Service to the Authorization Code classcode.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	AUB	Authcode Data Block.
CUST	xx	Customer number.
SPWD	xxxx	Secure data password (see LD 15 for description).
CLAS	0-115	Classcode number.
CLS	(UNR) CUN TLD CTD SRE FRE FR1 FR2	Unrestricted (default). Conditionally Unrestricted. Toll Denied. Conditionally Toll Denied. Semi-Restricted. Fully Restricted. Fully Restricted 1. Fully Restricted 2.
TGAR	X (0)-31	Class code TGAR Network Class of Service.
NCOS	(0)-99	Toll Restricted.

LD 86 – Enable or disable the Trunk Group Access Restriction (TGAR) option.

Prompt	Response	Description
REQ	CHG	Change.
CUST	xx	Customer number.
FEAT	ESN	Electronic Switched Network.
...		
TGAR	(NO) YES	Do not check for Trunk Group Access Restrictions when a call is placed through BARS. Check for Trunk Group Access Restrictions when a call is placed through BARS.

LD 24 – Assign a Class of Service to Direct Inward System Access (DISA) numbers.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	DIS	DISA data.
CUST	xx	Customer number.
SPWD	xxxx	Secure data password (see LD 15 for description).
DN	xxx...x	DISA DN.
TGAR	X (0)-31	Station or trunk TGAR. X = remove TGAR value. Note: With X11 Release 12 and earlier, 0-15 TGAR codes are allowed.
NCOS	(0)-99	Network Class of Service.
CLS	(UNR) CUN TLD CTD SRE FRE FR1 FR2	Unrestricted (default). Conditionally Unrestricted. Toll Denied. Conditionally Toll Denied. Semi-Restricted. Fully Restricted. Fully Restricted 1. Fully Restricted 2.

LD 17 – Allow/deny incoming calls to telephones with an FRE Class of Service for all customers.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN PARM	Configuration Record. Release 19 gate opener.
...		
FRPT	(NEFR) OLFR	(Deny) allow incoming trunk calls to telephones with FRE CLS, using call modification.

LD 16 – Add/change the TARG code for a trunk route.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDB	Route data block.
CUST	xx	Customer number.
ROUT	0-511 0-127	Route number. For Option 11C.
TARG	1 2 3...31	Route TARG codes (list each TARG to be blocked from using this route – put a space between each entry). To remove an entry, precede with X. Note: With X11 Release 12 and earlier, the range for TARG codes is 1-15.

LD 19 – Implement Code Restriction on trunk routes.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CRB	Code Restriction Block.
CUST	xx	Customer number.
ROUT	xxx	Trunk route number of COT or FX (there can be only one Code Restriction Block for each COT or FX route).
CLR	ALLOW	Allow all NPA/NXX codes except those entered in response to the prompt DENY.
	DENY	Deny all NPA/NXX codes except those entered in response to the prompt ALLOW.
	<CR>	Used when REQ = CHG.
ALLOW	xxx xxx...	If CLR = DENY, enter the NPA/NXX codes (200-999) allowed.
DENY	xxx xxx...	If CLR = ALLOW, enter the NPA/NXX codes (200-999) denied.

LD 16 – Define toll access digits that are to be ignored for Code Restriction.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDB	Route Data Block.
CUST	xx	Customer number.
ROUT	0-511 0-127	Route number. For Option 11C.
OABS	x x x	Outgoing digits (0-9) to be ignored.

Feature operation

No specific operating instructions are required to use this feature.

AC15 Recall: Timed Reminder Recall

The AC15 Timed Reminder Recall feature allows timed recall functionality in an environment where a Meridian 1 is used as a hub for systems that are connected with an AC15 TIE trunk.

The feature enables a call established with a local Meridian 1 set or trunk and extended by a controlling party over an AC15 TIE trunk to be recalled after a programmed period of time to the Meridian 1 attendant. The controlling party is an attendant or a set connected to the Meridian 1. When Night Service is activated, the call will be recalled to the Night DN if the original call is external and the International Supplementary Features (SUPP) package 131 is equipped.

Operating parameters

The call must be extended to the AC15 TIE trunk by a controlling party on the Meridian 1. The feature is not applicable to tandem calls via the Meridian 1, calls routed directly by Meridian 1 routing controls, and direct calls over the AC15 TIE trunk.

AC15 TIE trunks must be configured on a route basis.

Night Service must be activated, the original call must be an external call, and International Supplementary Features (SUPP) package 131 equipped for a call to be recalled to the Night DN. That is the only situation where an AC15 recall will not be presented to the attendant.

Answer supervision must be configured on the AC15 TIE trunk for the feature to be activated.

XFEM trunk cards that support AC15 signaling are required (e.g., the NT5K19AC trunk card for the UK).

Feature interactions

AC15 Recall: Transfer from Norstar

A transfer performed by an AC15 trunk using the Transfer from Norstar feature to another AC15 trunk is not subject to Timed Reminder Recall. This is to prevent a call transferred by someone on Norstar from recalling the Meridian 1 attendant.

It is recommended that all AC15 cards on the network's Meridian 1 are NT5K19AC or later. This is mandatory for the Meridian 1 which directly interfaces with the Norstar (this requirement applies to all of this switch's AC15 cards, even to those that do not directly interface with the Norstar).

Access Restrictions

With call modification, a trunk-to-trunk connection is controlled by signaling, recall capability and the supervision assigned to each trunk. For example, an established call from an unsupervised trunk cannot be transferred over another trunk.

When the AC15 Timed Reminder Recall feature is to be activated, an established call with an unsupervised trunk may be extended over an AC15 trunk because the connection is controlled before the called party answers by the AC15 recall timer.

Attendant Clearing During Night Service (ACNS)

If ACNS is active and there is a call being extended over an AC15 TIE trunk, when the attendant goes into Night Service, the transfer is completed and the feature is activated.

If there is an AC15 recall presented to the attendant and it goes in Night Service, the recall is put in the attendant queue.

If an AC15 recall has been answered by the attendant and it goes in Night Service, the call is removed from the attendant port and the feature is activated again.

Attendant Console

The Incoming Call Indicator (ICI) can be configured to work with this feature. When there is a recall, the ICI RLL key lamp is updated, and is either lit or flashing. The attendant can answer the recall by pressing the ICI RLL key instead of the Loop key.

Attendant Console – Call Key Lamp State and Display

When the attendant is dialing over an AC15 TIE trunk and the AC15 Timed Reminder Recall feature is to be activated, the destination lamp state is winking instead of lit. It is only lit when the called party answers.

Attendant Forward No Answer

If the Attendant Forward No Answer feature is activated and the attendant fails to answer, the attendant is forced into Busy Position and the call goes to the first idle attendant or is put into the attendant queue. If the conditions are also satisfied to put the customer in Night Service and the original call is an external call, the AC15 recall is directed to the Night DN.

Attendant Overflow Position

AC15 recalls are not routed to the Attendant Overflow Position. They are directed to the first idle attendant or put in the attendant queue.

Attendant Secrecy

Secrecy is not activated when AC15 recalls are presented to the attendant.

Call Hold, Permanent

Call Hold Permanent is activated when the attendant presses the HOLD key then the Release (RLS) key when extending a call, the call will then be permanently held on the Loop key. If the attendant retrieves the original call on hold by pressing the Loop key, the recall timer is stopped. If the attendant then presses the RLS key, the call is extended and the recall timer is restarted.

Called Party Name Display

When the AC15 recall is presented to an attendant or a set with a display, the source and destination names are shown beside the DNs or the ACODs.

Conference

The conference feature is sometimes used to perform a transfer when a controlling party establishes a call, the controlling party establishes a conference with a third party and releases, and a call is established between the two remaining parties.

If an established call is extended over a trunk to initiate a conference call, this conference call cannot be set up if this trunk has answer supervision and the called extension has not answered. The AC15 Timed Reminder Recall feature cannot be activated by using the conference feature to extend a call over an AC15 TIE trunk, because the AC15 TIE trunk must have answer supervision and the called extension must be ringing.

Network Attendant Service

If Night Service and Network Attendant Service are active, the recall is routed to a remote attendant. The original party is kept, the destination party is disconnected and the AC15 TIE trunk is released.

Night Service Enhancements

This feature is used to direct the call to the Night DN if the original call is an external call and the SUPP package 131 is equipped. When there is an AC15 recall and the attendant is in Night Service, the called party is disconnected (the AC15 trunk is released) and the original call is presented to the Night DN.

Periodic Clearing

When the Periodic Clearing feature is active the Disconnect timer will interfere with the AC15 recall timer. The Disconnect timer is activated on a TIE trunk or an incoming Direct Inward Dialing (DID) or Central Office (CO) trunk which is connected to the AC15 TIE trunk. If the Disconnect timer expires first the AC15 recall is cancelled and the trunk is disconnected. This is the case with a call which has been established with a TIE trunk or an incoming call on a DID or CO trunk that has been extended over an AC15 TIE trunk with the timed recall activated.

Recall to Same Attendant

With the AC15 Timed Reminder Recall feature, if Recall to Same Attendant = RSAA the call is presented to the attendant who last extended the call, if RTSA = RSAX the call is presented to the attendant who last extended the call or put in the queue if this attendant is busy.

Secrecy Enhancement

When the attendant answers an AC15 recall, the destination party is excluded from the connection. The attendant is connected to the source party and the excluded destination lamp is lit to show the exclusion of the destination party.

Series Calls

Series Calls cause a source call that has been extended to a local destination party to be recalled to the attendant when the destination party hangs up. In activating the AC15 Timed Reminder Recall, the called party is not local. Therefore, the Series Calls feature is not applicable.

Set Digit Display

When an AC15 recall is directed to the Night DN, if the Night DN set has a display, the display shows the external trunk and the AC15 trunk information.

Slow Answer Modification (SLAM)

With the AC15 Timed Reminder Recall feature, if SLAM is allowed, when the attendant answers an AC15 recall the destination party is disconnected and the AC15 TIE trunk is released.

Feature packaging

The AC15 Recall (ACRL) package 236 must be equipped to activate the AC15 Timed Reminder Recall feature.

Feature implementation

LD 15 – Set the Slow Answer Recall timer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB TIM	Customer Data Block. Release 21 gate opener.
CUST	0-99 0-31	Customer number. Option 11C.
...		
- RTIM	xxx yyy zzz	xxx – timer in seconds for the Slow Answer Recall and the AC15 Timed Reminder Recall. yyy – timer in seconds for Camp-on Recall. zzz – timer in seconds for Call Waiting Recall.

LD 16 – Define a TIE route with the ATRR option set.

Prompt	Response	Description
REQ	NEW	New.
TYPE	RDB	Route Data Block.
CUST	0-99 0-31	Customer number. Option 11C.
ROUT	xxx	Route number.
TKTP	TIE	Trunk type.
...		
DTRK	NO	Digital trunk.
...		
TIDY	xxxx yyyy	Trunk identity.
ATRR	YES	AC15 Recall: Timed Reminder Recall. Calls transferred to an AC15 trunk on this route are subject to Timed Reminder Recall. Prompted with ACRL package 236 if TKTP = TIE and DTRK = NO.

LD 14 – Define an AC15 TIE trunk on an XFEM card.

Prompt	Response	Description
REQ	NEW	New.
TYPE	TIE	TIE trunk.
TN	l s c u c u	Loop, shelf, card, and unit. Card, unit (Option 11).
CDEN	4D	Card density.
CUST	xx	Customer number.
...		
SIGL	WR4	AC15 signaling.

...		
SUPN	YES	Answer and disconnect supervision required.

Feature operation

Activating Timed Reminder Recall

The activation of the feature depends on whether the controlling party is the attendant or a set.

Attendant as a controlling party

- 1 A call is established on the source side of the attendant. The lamps displays appear as follows:
Loop is **lit**
Source is **lit**
Destination is **dark**
RLs key is **dark**
- 2 Dial an extension over an AC15 TIE trunk on the destination side. The lamps displays appear as follows:
Loop is **lit**
Source is **lit**
Destination is **winking**
RLs key is **dark**
- 3 Press the RLS key before the extension is answered. The AC15 recall timer is started. The lamps displays appear as follows:
Loop is **dark**
Source is **dark**
Destination is **dark**
RLs key is **lit**

Note: If the called extension answers the call, the recall timer is stopped.

Set as a controlling party

- 1 A call is established with a set on the Meridian 1.
- 2 Transfer to an extension over an AC15 TIE trunk by using a flash hook on a analog (500/2500 type) telephone or pressing the TRN key on a Meridian 1 proprietary telephone.

- 3 Complete the transfer before the extension answers by going on-hook on a analog (500/2500 type) telephone or pressing the TRN key on a Meridian 1 proprietary telephone. This will start the AC15 recall timer.

Answering a Recall

Attendant

- 1 The recall rings the attendant. The original call is put on the source side and the destination party is put on the destination side. The lamps displays appear as follows:

Loop is **dark**
Source is **flashing**
Destination is **winking**
Rls key is **dark**

Note: If the called extension answers, the recall is removed from the Attendant Console.

- 2 Answer the recall. The called extension is still ringing on the destination side. The lamps displays appear as follows:

Loop is **lit**
Source is **lit**
Destination is **winking**
Rls key is **dark**

Pressing the Rls key at this point will reactivate the feature.

If the called extension answers the call after the attendant has picked up the recall, the originating party is kept on the source side and the destination party on the destination side of the attendant. A conference will occur between the attendant, the source, and the destination party. If the attendant releases, a normal call will then be established.

Night DN or Central Answering Position (Option 11)

A Central Answering Position (CAP) is used as an alternative to an attendant on a Meridian 1 system particularly an Option 11 which is not equipped with an Attendant Console. Any customer appears in Night Service and the CAP DN is the Night DN in this configuration. For the Night DN or the CAP operation the following applies:

- For the original call to be directed to the Night DN the call must be a direct CO/DID call or a DID/CO call through a Digital Private Network Signaling System (DPNSS1) or Network Attendant Service (NAS) ISDN trunk.
- For recall to the Night DN, the destination party is disconnected before the recall is presented to the Night DN.

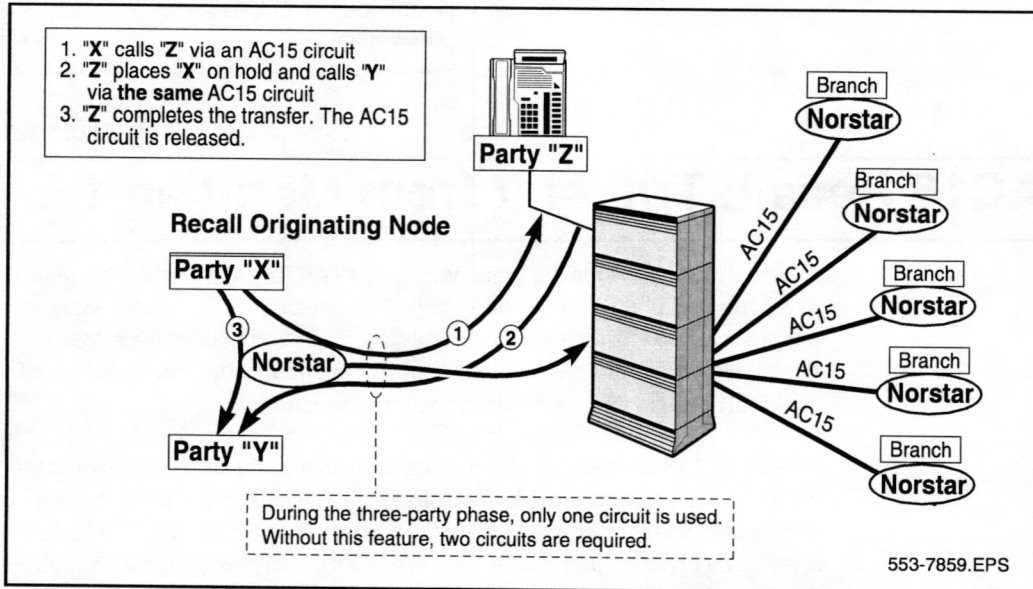
AC15 Recall: Transfer from Meridian 1

The AC15 Recall: Transfer from Meridian 1 (ACRL) allows the Meridian 1 to function as a “recall originating node” in situations where the Norstar functions as a control node. This capability permits signaling over AC15 trunks, which minimizes the number of AC15 circuits, optimizes the use of AC15 TIE trunks and avoids tromboning connections.

When a call with a party on the Norstar is transferred from a Meridian 1, the ACRL feature enables the Meridian 1 to send a recall signal to the Norstar. This recall message permits the re-use of the same AC15 circuit, on which the call was received, to transfer the call. When a transfer is completed, the AC15 trunk is released. The following scenario demonstrates the ACRL feature capabilities.

A call occurs between party X (external call) and party Z (on the Meridian 1). Party Z initiates the transfer feature and a recall signal is sent over the AC15 trunk. This signal is detected by the control node which puts the calling party X on hold and provides a dial tone to party Z to invoke a call transfer. The transfer dialed digits are sent on the AC15 trunk to the control node. A new call to party Y is placed that connects party Z with party Y. A release signal is sent when party Z completes the transfer and the AC15 trunk is released. Figure 1 illustrates this example.

Figure 1
Meridian 1 to Norstar Call Transfer



Operating parameters

AC15 Recall: Transfer from Meridian 1 requires XFEM trunk card NT5K19AC or later. This feature is only available in countries that use this card type.

There is no signaling capability for the control node to inform the tandem node or recall originating node that a party has answered or that there has been a release of any call on a split line.

The recall signal received on an AC15 trunk is not tandemed. No recall signal is sent on the reception of a "recall" in message.

Unsplitting of lines is not supported. In instances where a line is split, the line remains split until the whole trunk is released. This parameter ensures consistency on both sides of the AC15 channel. Additionally, it eliminates the possibility of selective release a call in split mode.

The AC15 trunk must be configured with a digitone (CLS = DTN) Class of Service (LD 14) to ensure that the recall signal is received by the trunk. The trunk must also be configured on a modified XFEM trunk card.

The far end control node must be a switch that supports the recall signal, such as a Norstar.

The AC15: Transfer from Meridian 1 is supported on ARIES (2006, 2008, 2016, 2216, 2616) sets.

Transfer chaining is not possible. There is no way to know if party X or party Y has gone on-hook once a trunk has been split. Therefore, Party Z cannot transfer to another set or initiate another consultation to a party on another node.

Electronic Switched Networks are supported on the initial transfer, provided that digits are outpulsed on the trunk after the End-to-End Signaling Delay (EESD) timer expires. If the far end is not ready for an incoming call, the call will fail because no dial tone will be detected by the Meridian 1.

The recall transfer for applications, such as Meridian Mail, CCR or Meridian link, is not supported.

Optimization is not performed if a conference key is used.

AC15 trunks using MFC signaling are not supported.

When a trunk has been split, the Release Key functions as a Hold Key. A user cannot selectively release one call in a split mode.

With new functionality of the Release Key, the following events occur if party Z goes on-hook when a trunk is split:

- if HCC = NO, the active call is put on hold;
- if HCC = YES, all calls are released and party X and party Y are connected; or
- if HCC = XFER, or if one of the calls is active, the trunk is released and party X and party Y are connected. If both calls are held, then there is no effect.

Feature interactions

AC15 Recall: Transfer from Norstar

If a recall message is received on a "split out" AC15 trunk, then this message is ignored.

Authorization Codes

Authorization Codes, Basic Authorization Codes and Station Specific Authorization Codes are not supported with the ACRL feature. Recall digits are outpulsed with the End-to-End Signaling, which does not support the aforementioned features. If a user has trunk access restrictions, it is not possible to override the priority by dialing an authorization code. Another trunk will be seized.

Autodial

Last Number Redial

Autodial and Last Number Redial are supported with the AC15 Recall: Transfer from Meridian 1 on the first transfer, provided that the digits are outpulsed on the trunk after the End-to-End Signaling Delay timer expires. If the far end is not ready, the call will fail because no dial tone detection is performed by the Meridian 1.

Additional transfers are supported if the stored digits are outpulsed without any treatment. For example, a route is seized and the route access code is outpulsed to the far end and interpreted as a Directory Number. No dial tone detector or timer is started, so the digits are outpulsed immediately without checking the state at the far end.

Call Park

If party Z parks the call initiated by party X (an external caller), then the AC15 Recall: Transfer from Meridian 1 cannot be used to call party Y. Party Z can neither park, selectively, one member of a split trunk nor park a whole split trunk. This avoids a recall to an attendant on the recall originating node that would not be able to send a recall to toggle from one party to another.

Call Detail Recording

Call Detail Recording generates one N record. This record contains information on the first call associated with the Directory Number. Information on the transfer is not retained.

Conference

The use of the Conference key does not activate the AC15 Recall: Transfer from Meridian 1 feature. Conference call is not supported because it is not possible to have two parties on the same trunk.

Redirection

If party Z transfers party X to party Y through Call Forward/Hunting then the AC15 trunk to party Y is not supported. The AC15 trunk cannot be split. If possible, another AC15 trunk is used.

Set Display

The toggling from party X to party Y changes on the display of party Z. All digits dialed during the call are displayed. If Party X or Party Y goes on-hook, party Z still displays the number dialed. If an additional extension is dialed, the digits are added to the previously dialed digits.

Speed Call**Network Speed Call**

Speed Call and Network Speed Call are supported with the AC15 Recall: Transfer from Meridian 1 on the first transfer, provided that the digits are outpulsed on the trunk after the End-to-End Signaling Delay timer expires. If the far end is not ready, the call will fail because no dial tone is detected by the Meridian 1.

Additional transfers are supported if the digits are outpulsed without any treatment. For example, the route access code will be outpulsed to the far end. No dial tone detector is assigned and no timer is started so the digits are outpulsed immediately without checking the state at the far end.

Feature packaging

AC15 Recall: Transfer from Meridian 1 requires the following packages:

- AC15 Recall (ACRL) package 236
- International Supplementary (SUPP) package 131
- UK Program (UK) package 190
- Autodial Tandem Transfer (ATX) package 258

Feature implementation

LD 15 – Customer Data Block.

Prompt	Response	Description
REQ:	CHG	Change existing data block.
TYPE:	FTR	Customer Features and Options.
CUST	xx	Customer number.
...		
EEST	NO	End-to-End Signaling Tone to originating party.

LD 16 – Define route accepting recall signal in Route Data Block.

Prompt	Response	Description
REQ	NEW CHG	New, or Change.
TYPE	RBD	Route Data Block.
CUST	xx	Customer number associated with route.
...		
ROUT	0-511 0-127	Route Number. For Option 11C.
TKTP	TIE	Trunk type requires response when REQ = NEW.
...		
CNTL	YES	Changes to controls or timers.
TIMR	EESD 0 - (1024) - 4992	End-to-End Signaling Delay timer. If EESD = 0, the timer is not started and the buffered digits will not be outpulsed.
...		

DLTN	YES	Dial tone provided by the Meridian 1 to the far end switch.
TRRL	YES	Recall signal can be received and transmitted on this route.

LD 14 – Defining AC15 trunk in Trunk Data Block.

Prompt	Response	Description
REQ	NEW CHG	New, or Change.
TYPE	TIE	Type of trunk.
...		
TN	I s c u c u	Terminal Number. For Option 11 C.
XTRK	XFEM	Extended Flexible E & M trunk card.
RTMB	0-511 0-510 0-127 0-510	Route number and Member number. For Option 11C.
SIGL	WR4	AC15 signaling.
SUPN	YES	Answer and disconnect supervision required.
CLS	DTN	Digitone Class of Service.
...		

LD 11 – Defining Aries Set.

Prompt	Response	Description
REQ:	NEW CHG	New, or Change.
TYPE:	xxxx	Telephone type where: xxxx = 2006, 2008, 2016, 2216 and 2616.
...		
TN	I s c u c u	Terminal Number. For Option 11 C.

CUST	xx	Customer number.
...		
KEY	0-69 TRN 0-69 NUL	To add or remove a Call Transfer key.

Feature operation

- 1 Party X initiates a call to Party Z via an AC15 circuit.
- 2 Party Z places Party X on hold and calls Party Y via the same AC15 circuit.
- 3 Party Z completes the transfer. The AC15 circuit between Party X and Party Z is released.

AC15 Recall: Transfer from Norstar

The AC15 Recall: Transfer from Norstar (TRRL) feature is typically used in network configurations where a great number of branch nodes (small offices using a Norstar key system) are linked to a centralized Meridian 1 with back office functions (for example, answering facilities, Public Switched Telephone Network access) using AC15 TIE trunks. With this feature, when the Meridian 1 receives a call that has been transferred from Norstar, it can reuse the same AC15 circuit during the three-party phase and can release it when the transfer is complete. Therefore, call blocking between the Norstar and the Meridian 1 is reduced, and the number of necessary AC15 trunks could potentially be reduced.

A call between Party X (on the Meridian 1) and Party Z (on Norstar) is established. Party Z invokes the transfer feature on Norstar. A recall signal (similar to a dial pulse 1) is sent over the AC15 trunk, which is detected by the Extended Flexible E&M pack (XFEM) card on the Meridian 1. Party X is placed on hold by the Meridian 1, dialtone is provided to Party Z, and dialed digits are expected on the trunk. A new call to Party Y progresses based on the analysis of the received digits. Subsequent recall signals are used by Party Z to toggle between Party X (the original party) and Party Y (the desired party).

During the three-party phase, if the active party (X or Y) disconnects, dialtone is provided to Norstar. If the held party (X or Y) disconnects, the active call is unaffected. In both cases, the AC15 trunk is not disconnected. When Party Z goes on-hook, a release signal is received, the transfer is completed, and the AC15 trunk is released. If the transfer cannot be completed due to access restrictions, the Access Denied (ACCD in LD 15) intercept treatment is provided to the held party and the active party is disconnected. If the transfer cannot be completed because the active call is not in a ringing or established state, the active call is abandoned and the held party recalls the attendant. During the three-party phase, only one trunk is used. Without this feature, however, two AC15 trunks are needed.

Operating parameters

There is no signaling capability to inform Norstar that the second called party (Party Y) has answered. Similarly, there is no signaling capability to inform Norstar that there has been a release of any call by Party X or Party Y on the line.

This feature enables the Meridian 1 to process a recall signal received on the AC15 trunk. It does not enable the Meridian 1 to send such a signal.

The AC15 trunk must be configured with digitone Class of Service and answer supervision.

Currently, only Norstar key systems are supported on the far end.

When dialtone is provided by the Meridian 1, the digits are dialed according to the Meridian 1 system's numbering plan, not that of the Norstar.

This feature requires the XFEM trunk card (NT5K19AC) or later. It is, therefore, only applicable to the UK market.

Whenever a recall signal from Norstar is not allowed by the Meridian 1 (for example, impossible to put a call on hold, conference, or transfer chaining prevention), the signal is ignored.

Feature interactions

This feature introduces a new concept: a trunk can now put a call on hold and perform a transfer. Wherever possible, treatment is kept consistent with that of an analog (500/2500 type) telephone performing the same actions.

AC15 Recall: Timed Reminder Recall

A transfer performed by an AC15 trunk using the Transfer from Norstar feature to another AC15 trunk is not subject to Timed Reminder Recall. This is to prevent a call transferred by someone on Norstar from recalling the Meridian 1 attendant.

It is recommended that all AC15 cards on the network's Meridian 1 are NT5K19AC or later. This is mandatory for the Meridian 1 which directly interfaces with the Norstar. This requirement applies to all AC15 cards for this switch, including the cards that do not directly interface with the Norstar.

AC15 Recall: Transfer from Meridian 1

If a recall message is received on a "split out" AC15 trunk, then this message is ignored.

Attendant Consoles

If a party dials the DN of an attendant, current operation interprets this as an attendant recall request. The call is presented to the attendant on the ICI RLL. If the attendant answers, the transferred party is on the source and the controlling party is on the destination. If enhanced secrecy is denied, a three-party conference is established between the transferred party, the controlling party and the attendant.

With the Transfer from Norstar feature, if Y is an attendant it is a simple call presented on the source side of the attendant. When the attendant answers, a two-party conversation is established between the party and the attendant. No conference is established. To prevent transfer chaining, the attendant cannot transfer this party to another destination – dialed digits will be ignored.

Break-in to Enquiry Calls

It is not possible to Break-in to an enquiry call made by the Transfer from Norstar feature.

Call Detail Recording

In all cases, the conditions required for generating a CDR record are not changed by this feature. If the customer wants to see all records generated with this feature, the route containing the AC15 trunk must be configured with CDR = YES. If the customer only wants to see records generated as if the call was transferred by a local set, the route containing the AC15 trunk must be configured with CDR = NO.

It is possible to generate S records during simple call transfers. In multiple call transfers, X records are produced in some situations due to the CDR Enhancement feature.

It is possible, with this feature, to define an initial connection record (Q record) for incoming calls. The Q record is generated when an incoming trunk and an ACD agent are connected.

The CDR with Outpulsed Digits and the CDR Time to Answer features can also be applied to this feature.

Call Park

Remote access to call park from AC15 TIE trunks is not permitted. It is not possible to park an AC15 trunk if it has a call on hold. When an AC15 trunk is parked, it is not allowed to initiate a consultation call.

Call Trace

When the AC15 trunk is handling two calls during the three-party phase, both calls are traced in LD 80.

Call Trace Enhancement

This enhancement is applicable to the AC15 Recall: Transfer from Norstar feature. A record is issued any time the call state or the active call changes after a recall or a release message has been received from Norstar.

Calling Party Control

If a call comes from a trunk with calling party control, and the destination is a trunk, transferring the call is not allowed. When the AC15 trunk receives the release message, Access Denied treatment is provided.

Call Transfer

A party involved in a consultation call (an active or held party) cannot initiate a consultation call for preventing call chaining. This principle is maintained in the following cases:

- the party is an AC15 trunk (if it attempts to initiate a consultation call, the recall signal is ignored), and
- the party is a local set, but the consultation call is made by an AC15 trunk.

Conference

It is not possible in any situation with Transfer from Norstar to establish a three-party conference. It is not possible for an AC15 trunk to initiate a consultation if it is involved in a conference.

Dial Access to Group Calls

If Norstar sends a recall signal in order to initiate a consultation, the consultation will not be authorized because it is not possible to put a group call on hold. It is however possible to transfer a party to a group call using an AC15 trunk.

Digital Private Network Signaling System 1 (DPNSS1) Route Optimization

If the call is the active call at the originating exchange and the originator (including an AC15 trunk) has another call on hold, Route Optimization will not be initiated.

If the call is the active call at the terminating exchange and the terminator (including an AC15 trunk) has another call on hold, Route Optimization will not be initiated.

If the call is held at the originating exchange (including an AC15 trunk), Route Optimization should not be initiated. When this call is restored as the active call, it may be optimized.

If the call is held at the terminating exchange (including an AC15 trunk), Route Optimization may be requested by the originator, but the terminating PBX will reject it. When this call is restored as the active call, it may be optimized.

If the call has been transferred to an already answered party (including an AC15 trunk), the transfer signaling sequence is used to initiate optimization.

During a route optimization attempt, if an AC15 trunk is involved in the call either at the originating or terminating exchange, a recall signal is ignored.

DPNSS1 Three-party Service

When the set on Norstar completes a call transfer between two sets located within a DPNSS1 network:

- DPNSS1 access restriction are checked
- the set's displays are updated, and
- DPNSS1 route optimization after transfer can be activated.

Incoming Call Indicator Enhancement

If the held party recalls the attendant due to intercept or recall treatment, the recall is presented to the corresponding ICI key (INT or RLL).

Initialize

If initialize occurs during the three-party phase, the call on hold is cleared. If the active call is established, it is kept, otherwise it is cleared as well (and the AC15 trunk is idled).

MFC Signaling

AC15 trunks using MFC signaling are not supported.

Music

A party put on hold by an AC15 trunk hears music if Music is configured.

Periodic Pulse Metering

If Party Z (on Norstar) calls Party X and transfers the call to Party Y, if Party X is an outgoing trunk with PPM or Advice of Charge on the Meridian 1, the call is charged against the AC15 trunk route's meter until the transfer is completed. When Party Z completes the transfer in ringing status, the charges still accumulate in the AC15 trunk route's meter. If the call is in established status, the charges accumulate against Party Y, if Party Y has a meter, or otherwise against the customer meter.

Radio Paging

It is possible for an AC15 trunk to complete a transfer to paging trunk. If the held party is a trunk and the RPA recall timer is configured, the call recalls the attendant when the timer expires.

A set (or Attendant Console) involved in a consultation call cannot pick up (by the RPAN Flexible Feature Code) a paged call which is itself a consultation call. This principle applies to consultation calls made with AC15 trunks.

Slow Answer Recall for Transferred External Trunks

In both standalone and Network Attendant Service (NAS) environments, when a call is transferred to a ringing set on the Meridian 1 by an AC15 trunk, the RTIM recall timer is not started.

Feature packaging

The AC15 Recall (ACRL) package 236 must be equipped to activate the Transfer from Norstar feature.

For recalls to the Night DN, International Supplementary Features (SUPP) package 131 is required.

Feature implementation

LD 15 – Define an intercept treatment for access denied.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	CDB INT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
INTR	YES	Intercept treatment.
- ACCD	(OVF ATN ATN ATN)	Choice of access denied intercept treatment.
- LLT	(OVF) OFA ATN	Treatment given to calling party when dialtone timer expires: when OVF or OFA is entered, overflow is provided. When ATN is entered, the party is forwarded to the attendant.

LD 16 – Define a route accepting recall signal.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	RDB	Route Data Block.
CUST	xx	Customer number.
ROUT	nn	Route number.
TKTP	TIE	Trunk type.
NEDC	ETH	Near-end disconnect control by either originator or terminator.
FEDC	ETH	Far-end disconnect control by either originator or terminator.
DLTN	YES	Dialtone provided by the Meridian 1 to the far-end switch.

TRRL	YES	AC15 Recall: Transfer from Norstar. An AC15 trunk on this route is able to receive a recall signal. Prompted with ACRL package 236 if TKTP = TIE, and DTRK = NO.
------	-----	---

LD 14 – Define an AC15 TIE trunk on this route.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	TIE	TIE trunk.
TN	l s c u c u	Terminal number. For Option 11.
XTRK	XFEM	XFEM card.
RTMB	rrr mmm	Route number; member number.
SIGL	WR4	AC15 signaling.
SUPN	YES	Answer and disconnect supervision.
CLS	DTN	Digitone Class of Service.

Feature operation

Initiating a consultation

A call is established between Party X (a set or trunk) on the Meridian 1 and Party Z on Norstar, through an AC15 trunk. When Party Z initiates a consultation call (Norstar sends a recall signal), Party X is placed on hold and dialtone is provided to Norstar using the same AC15 trunk. The digits received from Norstar are processed according to the Meridian 1 system's dialing plan, and eventually Party Y (a set, trunk, or Attendant Console) rings. If no digits are received from Norstar for 14 seconds while Z hears dialtone, overflow tone (for 14 seconds), and then silence (indefinitely) are provided to Party Z. At any time, Norstar may then send another recall signal to be reconnected to Party X.

Toggling during the three-party phase

If Z toggles (Norstar sends a recall signal) while calls with both X and Y are established, the active party is put on hold, and the held party becomes active. If the active call is not established (for example, dialing, ringing, or busy), it is disconnected.

If the held party has released, then if the active call is established it is put on hold, otherwise it is disconnected; in both cases dialtone is provided to Z.

Active or held party disconnects during the three-party phase

If the active party (X or Y) disconnects during the three-party phase, dialtone is provided to Z and a new call can be processed. If the party on hold (X or Y) disconnects, the active call is unaffected. In both cases, the AC15 trunk is not disconnected.

Completing the transfer

Party Z completes the transfer from X to Y, regardless of which is the active party, by going on-hook (Norstar sends a release signal). The transfer is allowed when the active call is ringing or established. Note that if Y is a trunk, although Z is hearing ringback tone, the call will not be considered in a proper state for being transferred until Y's end of dialing timer (EOD or ODT) has expired, or Z has pressed the # sign. In the other call states, the active call is abandoned and the held party recalls the attendant. If the call cannot be transferred due to access restrictions, the active party is disconnected and the held party is given the Access Denied (ACCD) intercept treatment. In all cases, when the release signal is received, the AC15 trunk is disconnected.

Introduced in X11 Release:	24
Networking:	No

ACCL Enhancements

Certain networks have been configured that require the end user to enter an Authorization Code when processing calls. Different customers want to provide different tone/signals to the end user to inform them when to enter the Authorization Code.

The existing Authorization Code Conditionally Last (ACCL) feature provides an optional recorded announcement followed by 10 bursts of dial tone and then steady dial tone to prompt the user to enter the Authorization Code. Many end users do not recognize what these tones are, and end up abandoning the call. Another limitation of this feature is that the users are unable to interrupt the Recorded Announcement by entering the Authorization Code.

The Authorization Code Conditionally Last Enhancements (ACCLE) feature allows the user to receive an optional Recorded Announcement, followed by configurable bursts of tone and a steady dial tone. If the user enters the Authorization Code during Recorded Announcement, then Recorded Announcement is interrupted.

Operating parameters

The ACCL Enhancements feature applies to option 11C, 51C, 61C, 81, and 81C systems running X11 release 24 and later software. The feature is applicable to all the call types provided over a network (ISDN, BARS, NARS, CDP, DISA, analog, and digital).

Two new prompts, “ACLE” and “BRST” are introduced in LD 88:

- ACLE decides whether RAN messages can be made interruptible. Also, ACLE decides if Authorization Code Request Tone has to be given immediately when all the RAN trunks are busy/disabled or the RAN machine is disabled.
- BRST decides the numbers of initial bursts of tone to be given. This prompt can accept a value ranging from 0 to 10. The maximum value of BRST can be 10.

A new prompt ABST has been added in LD 56 to configure the cadence for the initial burst of tone. The ABST prompt is followed by subprompts XTON (if XCT card is enabled) or TDSH (if TDS card is enabled), XCAD and CDNC.

If the BRST value is 0, then the RAN message is followed by the steady dial tone as configured for the ABST prompt in LD 56. The user has to ensure that the XTON/TDSH (if the Japan Tones package (JTDS package 171) is enabled), XCAD, and CDNC prompts are configured for steady dial tone value if required. In addition to this, the first ON phase should be configured as zero in MCAD for steady dial tone to take effect immediately. It is important that if the ON phase is not made zero, burst tone will be heard when the user expects steady dial tone, even when BRST is zero.

If the BRST value is configured as zero in LD 88, then the user is given the Authorization Code Request Tone as per the guidelines listed above.

If the first ON phase is zero, then steady dial tone is given immediately.

Initial bursts of tone are stopped and steady dial tone is given immediately if any OFF phase is configured as zero in the MCAD table.

If the Japan Tones package (JTDS package 171) is enabled then steady special dial tone is given after the initial bursts. If the BRST value is zero then the user has to ensure that the XTON/TDSH, XCAD, and CDNC values of ABST prompts are set to special dial tone value.

If all MIRAN/RAN channels are busy/disabled or the RAN machine is disabled, then the caller is immediately given the authorization code request tone and is allowed to enter the authorization code. An error message, ERR9050, is sent to the TTY for technician follow-up. This is done only if the ACLE prompt in LD 88 is set to YES.

When the caller enters the authorization code, the digits are suppressed on any display telsets (optional).

While configuring a new cadence table in LD 56, if values of XTON/TDSH, XCAD and CDNC are not entered, then values are picked up from the default table.

Note: In the case of BRST=0, the values picked up from the default table will give a burst instead of steady dial tone. Make sure that the first ON phase in MCAD is set to zero to get immediate steady dial tone.

As with the base ACCL feature, the ACCLE feature does not support BRI sets.

If a RAN trunk is seized and the RAN machine is down at the time, the caller will receive silence for the duration of the RAN message time, then the Authorization Code Request Tone will be provided.

Feature interactions

NARS/BARS/CDP

With the Network Authorization code (NAUT) feature, users dialing a NARS, BARS, or CDP call can be prompted conditionally to enter an authorization code. The prompt is by an authorization request tone, which consists of 10 bursts of dial tone, followed by steady dial tone. The authorization request tone can optionally be preceded by an appropriate recorded announcement. The ACCLE feature changes the authorization request tone by replacing the 10 bursts of dial tone with a configurable burst of tone, followed by steady dial tone. Also, this feature allows the Recorded Announcement to be interruptible. The functionality of NARS, BARS, and CDP are not affected by the ACCL Enhancements feature.

Direct Inward System Access (DISA)

Users accessing a Meridian 1 node via the Direct Inward System Access (DISA) feature to make a NARS, BARS, or CDP call all are prompted for an authorization code. This prompt is by an authorization request tone, which consists of 10 bursts of dial tone, followed by steady dial tone. The authorization tone can, optionally, be preceded by an appropriate recorded announcement. The ACCLE feature changes the authorization request tone by replacing the 10 bursts of dial tone with a configurable burst of tone, followed by steady dial tone. Also, this feature allows the Recorded Announcement to be interruptible. The ACCLE feature does not affect the functionality of DISA.

Network Authorization code/Basic Authorization code (NAUT)/BAUT)

The authorization code feature enables selected users to temporarily override the access restrictions assigned to a station or trunk. A user can enter an authorization code (authcode) to access more of the system facilities than would normally be allowed to the particular station or trunk because of the assigned Network Class of Service (NCOS). The Network Authorization code feature provides two package options:

- Basic Authorization codes (BAUT) for general applications.
- Network Authorization codes (NAUT) for network applications.

With the NAUT package, users can be prompted conditionally for an authcode after dialing a NARS call. The prompt is by the ACCL Enhancements Authorization Code Request Tone, that consists of a configurable burst of dial tone, followed by steady dial tone. The ACCL Enhancements feature allows the user to interrupt the recorded announcement and enter an authorization code. The functionality of NAUT/BAUT is not affected by the ACCL Enhancements feature.

Authorization Code Conditionally Last (ACCL)

In ACCL, users are prompted by an Authorization Code Request Tone, which consists of 10 bursts of dial tone, followed by steady dial tone. The Authorization Code Request Tone is optionally preceded by an appropriate Recorded Announcement (RAN). The ACCL Enhancements feature changes the Authorization Code Request Tone by allowing the 10 bursts of dial tone to be replaced by a configurable burst of tone, followed by steady dial tone. ACCL Enhancements allows the Recorded Announcement to be interruptible conditionally, based on whether prompt ACLE is YES or NO in LD 88.

Recorded Announcement (RAN)

The ACCLE feature enables the RAN to be interrupted by the entry of an Authorization Code. If all RAN trunks are busy/disabled or the RAN machine is disabled, then an error message is printed on the TTY and the ACCLE Authorization Code Request Tone is given (that consists of a configurable burst of dial tone, followed by steady dial tone).

Speed Call/Autodial with Authorization Code

Speed Call/Autodial with Authorization Code allows an Authorization Code to be included in a Speed Call entry or an Autodial key. The call cannot be terminated by storing the passcode in the Autodial key. The user is still prompted for authorization by the Authorization Code Request Tone as defined in LD 56.

RAN Broadcast

The RAN Broadcast feature allows the same trunk to be shared by calling parties receiving a RAN announcement.

In order to provide Recorded Announcement for the ACCLE feature, the RAN trunk from the RAN Broadcast machine can be used. However, ACCLE does not impact the functionality of RAN Broadcast.

Feature packaging

This feature does not introduce any new packages.

The following feature packages are required:

- Basic Authorization Code (BAUT), package 25
- Basic Alternate Route Selection (BARS), package 57.
- Network Alternate Route Selection (NARS), package 58.
- Network Authorization Code (NAUT), package 63

The following packages are required for ACCLE to be completely functional:

- Recorded Announcement (RAN), package 7 (if the RAN package is not equipped, no recorded announcement will be given). RAN requires Intercept Treatment (INTR) package 11.
- Flexible Tones and Cadences (FTC), package 125 (if the FTC package is not equipped, it is not possible to configure the initial burst or steady dial tone).

The following feature packages can optionally be used with ACCLE:

- Direct Inward System Access (DISA), package 22.
- Network Class of Service (NCOS), package 32
- Coordinated Dialing Plan (CDP), package 59.
- Scheduled Access Restrictions (SAR), package 162.
- Supplementary Package (SUPP), package 131.
- RAN Broadcast Package (RAN_BRDCST), package 327

Table 3 shows the different combinations of packages and the combination results. An "X" in the table indicates that the particular package is not equipped.

Table 5
ACCLE package combinations

Package Name	NARS	RAN ^a	BARS	BAUT	NCOS	FTC	NAUT	Result
Package Combination	X		X					ACCLE not functional
Package Combination		X					X	ACCLE partially functional ^b
Package Combination				X				ACCLE not functional
Package Combination						X		ACCLE partially functional ^c
Package Combination					X			ACCLE not functional
Package Combination							X	ACCLE not functional

a. The RAN package requires the INTR package (package 11).

b. If the Recorded Announcement (RAN) package is not equipped then no recorded announcement will be given.

c. If the Flexible Tones and Cadences (FTC) package is not equipped then it is not possible to configure the initial burst or steady dial tone.

Cadence Calculations

A cadence is defined at the CDNC prompt in LD 56 by entering the time for each ON and OFF phase. The time depends on the setting for the TMRK prompt in LD 17, which defines the software cadence increments as 96 or 128 ms. For each phase, enter the closest multiple of 5 ms equal to the multiple of 96 or 128 ms which gives the time required.

CDNC Calculation Example

Given that TMRK is set to 128 ms in LD 17, and a repeating 2 seconds on, 4 seconds off cadence is required:

1 Determine the ON phase (2 seconds = 2000 ms)

$$2000/128 = 15.625 = 16 \text{ (always round up)}$$

$$128 \times 16 = 2048 \text{ ms}$$

$$\text{Round } 2048 \text{ up to next multiple of } 5 = 2050$$

$$\text{Entry for prompt CDNC} = 2050/5 = 0410$$

2 Determine the OFF phase (4 seconds = 4000 ms)

$$4000/128 = 31.25 = 32$$

$$128 \times 32 = 4096 \text{ ms}$$

$$\text{Round } 4096 \text{ up to next multiple of } 5 = 4100$$

$$\text{Entry for prompt CDNC} = 4100/5 = 0820$$

Feature implementation

LD 16 – Configure Recorded Announcement (RAN).

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	RDB	Route Data Block.
CUST	xx	Customer number associated with this route.
ROUT	0-511 1-127	Route number for options 51C-81C. Route number for option 11C.
...
TKTP	RAN	Trunk type
RTYP		Recording device for RAN trunks.
	AUD	Audichron or Cook 212, required for XUT trunks.
	CAP	Code-a-Phone.
	CK2	Cook 201 or QAY 1.
	CON	Cook 201 or Multichannel.
	DGT	213300 and 213400 Digital Recorders.
	LVL	Level start/stop (Enhanced Universal Trunk cards)
	PUL	Pulse start/stop (Enhanced Universal Trunk cards)
...
REP	1-15	Number of RAN repetitions.
...

LD 14 – Configure Recorded Announcement (RAN).

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	RAN	RAN trunk.
TN	l s c u c u	Terminal Number. Options 51C-81C. Option 11C.
...
XTRK	XUT	Universal trunk card.
CUST	xx	Customer number associated with this trunk.
RTMB	0-511 1-510 0-127 1-510	Route number and Member number. Option 11C format.
TIMP	1200	Termination impedance. Use 1200 ohms for RAN trunks.

LD 88 – Enable ACCL Enhancements (ACCLE) feature.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	AUB	Authorization Block.
CUST	0-99	Customer number associated with this function.
SPWD	xxxx	Secure data password.
ACDR	YES	Activate CDR for authcodes.
ALEN	1-14	Authorization Code length.
RANR	0-511 0-127 X	Recorded Announcement Route Number, if available. Option 11C. If RAN route is not available.
ACLE	YES	Recorded Announcement interruption is required.
BRST	0-(10)	Number of initial bursts of dial tone to be given.
...

LD 56 – Configure the ACCL Enhancements feature cadences.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	FTC	Flexible tones and cadences.
TABL	0-31	FTC table number.
DFLT	0-31	Default table number.
RING	<CR>	
HCCT	<CR>	
SCCT	YES	Change software controlled cadence tone definitions.
...
ABST		Authorization Burst of Tone
-XTON	0-(4)-255	NT8D17 TDS Tone code.
-XCAD	(0)-255	NT8D17 cadence tone for FCAD.
-CDNC	0-(2)-255	MCAD table entry for this cadence.
...

LD 56 – Configure the Firmware Cadence Table (FCAD).

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	FCAD	Firmware cadence table.
WCAD	0-255	Cadence number in master cadence table.
CDNC	0410 0820	2 seconds on, 4 seconds off <i>See Cadence Calculations on page 66.</i>

LD 56 – Configure the Master Cadence Table (MCAD).

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	MCAD	Master cadence table.
WCAD	0-255	Cadence number in master cadence table.
CDNC	0410 0820	2 seconds on, 4 seconds off.

Feature operation

There are no specific operating procedures required to use this feature.

Category	Item	Value	Unit
Category 1	Item 1	100	100
Category 1	Item 2	200	200
Category 1	Item 3	300	300
Category 1	Item 4	400	400
Category 1	Item 5	500	500
Category 1	Item 6	600	600
Category 1	Item 7	700	700
Category 1	Item 8	800	800
Category 1	Item 9	900	900
Category 1	Item 10	1000	1000
Category 1	Item 11	1100	1100
Category 1	Item 12	1200	1200
Category 1	Item 13	1300	1300
Category 1	Item 14	1400	1400
Category 1	Item 15	1500	1500
Category 1	Item 16	1600	1600
Category 1	Item 17	1700	1700
Category 1	Item 18	1800	1800
Category 1	Item 19	1900	1900
Category 1	Item 20	2000	2000
Category 1	Item 21	2100	2100
Category 1	Item 22	2200	2200
Category 1	Item 23	2300	2300
Category 1	Item 24	2400	2400
Category 1	Item 25	2500	2500
Category 1	Item 26	2600	2600
Category 1	Item 27	2700	2700
Category 1	Item 28	2800	2800
Category 1	Item 29	2900	2900
Category 1	Item 30	3000	3000
Category 1	Item 31	3100	3100
Category 1	Item 32	3200	3200
Category 1	Item 33	3300	3300
Category 1	Item 34	3400	3400
Category 1	Item 35	3500	3500
Category 1	Item 36	3600	3600
Category 1	Item 37	3700	3700
Category 1	Item 38	3800	3800
Category 1	Item 39	3900	3900
Category 1	Item 40	4000	4000
Category 1	Item 41	4100	4100
Category 1	Item 42	4200	4200
Category 1	Item 43	4300	4300
Category 1	Item 44	4400	4400
Category 1	Item 45	4500	4500
Category 1	Item 46	4600	4600
Category 1	Item 47	4700	4700
Category 1	Item 48	4800	4800
Category 1	Item 49	4900	4900
Category 1	Item 50	5000	5000
Category 1	Item 51	5100	5100
Category 1	Item 52	5200	5200
Category 1	Item 53	5300	5300
Category 1	Item 54	5400	5400
Category 1	Item 55	5500	5500
Category 1	Item 56	5600	5600
Category 1	Item 57	5700	5700
Category 1	Item 58	5800	5800
Category 1	Item 59	5900	5900
Category 1	Item 60	6000	6000
Category 1	Item 61	6100	6100
Category 1	Item 62	6200	6200
Category 1	Item 63	6300	6300
Category 1	Item 64	6400	6400
Category 1	Item 65	6500	6500
Category 1	Item 66	6600	6600
Category 1	Item 67	6700	6700
Category 1	Item 68	6800	6800
Category 1	Item 69	6900	6900
Category 1	Item 70	7000	7000
Category 1	Item 71	7100	7100
Category 1	Item 72	7200	7200
Category 1	Item 73	7300	7300
Category 1	Item 74	7400	7400
Category 1	Item 75	7500	7500
Category 1	Item 76	7600	7600
Category 1	Item 77	7700	7700
Category 1	Item 78	7800	7800
Category 1	Item 79	7900	7900
Category 1	Item 80	8000	8000
Category 1	Item 81	8100	8100
Category 1	Item 82	8200	8200
Category 1	Item 83	8300	8300
Category 1	Item 84	8400	8400
Category 1	Item 85	8500	8500
Category 1	Item 86	8600	8600
Category 1	Item 87	8700	8700
Category 1	Item 88	8800	8800
Category 1	Item 89	8900	8900
Category 1	Item 90	9000	9000
Category 1	Item 91	9100	9100
Category 1	Item 92	9200	9200
Category 1	Item 93	9300	9300
Category 1	Item 94	9400	9400
Category 1	Item 95	9500	9500
Category 1	Item 96	9600	9600
Category 1	Item 97	9700	9700
Category 1	Item 98	9800	9800
Category 1	Item 99	9900	9900
Category 1	Item 100	10000	10000

Activity Codes for Not Ready State

Prior to the introduction of the Activity Codes for Not Ready State feature, an agent recorded call related activities only during an active call. The Activity Codes for Not Ready State feature allows an agent to use the existing Activity Code key to record activities while in the Not Ready State.

The Activity Code for Not Ready State feature is supported on the Meridian MAX Release 9.0 and later.

Operating parameters

This feature is designed for Meridian 1 proprietary sets with display. This feature is not supported for analog (500/2500) sets.

The Not Ready State is automatically invoked if the supervisor uses the following keys:

- Observe Agent
- Call Agent
- Answer Agent
- Answer Emergency

Note: When these keys are used, the Activity Code key lamp does not flash.

The Activity entry key and Activity key lamp are not affected if the Program key, the Display key, volume up/down, and handsfree keys are used.

Activity Codes for Not Ready State cannot be activated during Walkaway, Logged Out or Make Set Busy States.

Feature Interactions

Meridian 1 proprietary set function keys

If any key other than the Activity, Handsfree Mute, Dial Pad, Display key or Volume Control key is pressed while entering an Activity code, the Activity key lamp turns dark and any code entered is lost.

Multiple Queue Assignment

If Multiple Queue Assignment (MQA) is in use, the default Activity code sent to the Meridian MAX becomes the default code for the queue of the agent's last call answered. The ACD D defaults back to the last ACD DN the set was logged into.

Incoming call

An incoming call to the agents Individual Directory Number (IDN) does not interfere with the Activity Code entered, if the entry is completed before answering the call. If the Activity Code entry is not completed before answering an incoming call, the Activity Code is lost.

Return to Queue on No Answer

If a call is not answered by an agent, the call is sent back to the Automatic Call Distribution (ACD) queue and the agent's set is automatically put into the Not Ready State. The Activity key lamp does not flash.

Feature packaging

There are two minimum package combinations required to operate this feature, one for Meridian MAX and the other for the Symposium Call Center.

Feature package requirements for Meridian MAX are:

- Automatic Call Distribution, Account Code (ACNT) package 155
- Automatic Call Distribution Package D (ACD D) package 50
- ACD D, Auxiliary Link Processor (LNK) package 51
- Automatic Call Distribution Package D, Auxiliary Security (AUXS) package 114

Feature packaging requirements for Symposium are:

- Automatic Call Distribution, Account Code (ACNT) package 155
- Nortel Symposium Call Center (NGCC) package 311

Feature implementation

LD 11- Specify an Activity Code key for the set.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	a...a	Set type. Where a...a = Meridian 1 proprietary set with display capabilities (2006, 2008, 2009, 2016, 2018, 2112, 2216, 2616, and SL1).
TN	l s c u c u	Terminal Number. l = loop, s = shelf, c = card, u = unit for Option 51C-81C. c = card, u = unit for Option 11C.
CUST	xx	Customer Number as defined in LD 15.
...	...	
KEY	xx ACNT	xx = Key number (the ACNT key cannot be configured as 0).
KEY	<cr>	KEY is prompted until a carriage return is entered.

LD 23 - Enable Activity Codes in the Not Ready State for an ACD queue.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	ACD	Automatic Call Distribution data block. Requires Basic Automatic Call Distribution (BACD) package 40.
...	...	
ACNT	x...x	Account (Default activity code). Maximum four digits. Prompted if the ADS data block is built and the DCUS (Maximum number of ACD customers) setting in LD 17 is greater than one.
NRAC	YES	Enable Not Ready Activity Codes. (NO) = default.
- NDFL	xxxx	Not Ready Default code. Must be equipped with ACD D or NGCC package.

Feature Operation

To enter an Activity Code in the Not Ready State:

- 1 Press the Not Ready key. The Not Ready key lamp lights and the Activity Code key lamp flashes.
- 2 Press the Activity key. The Activity key lamp lights steadily.
- 3 Enter the activity code.
Note: The * is used to delete one digit at a time. The # symbol delete all the digits entered.
- 4 Press the Activity key. The activity code is sent to the system and the Activity Code key lamp goes out. This completes the activity code entry.
- 5 An ACD agent can enter multiple activity codes for each activity completed during any Not Ready Session. Repeat steps 2-4 until all tasks are entered.
- 6 Press the Not Ready key. The Not Ready key lamp goes out and the agent is placed back into the ACD queue.

To use the Display key in the Not Ready State:

- 1 The agent presses the Display key. The set display is cleared.
- 2 The agent presses the Activity key. The previously entered Activity Code appears in the set display.
- 3 The agent presses the Display key twice (or presses the RLS key) to display the time and date.

Note 1: If an activity code is not entered, the code configured in Overlay 23 (the Not Ready Default code setting) is sent to the system and the Activity Code Key lamp goes out.

Note 2: The ACCT message timestamp is set the first time the Activity key is pressed.

Agent Observe Login (Advanced)

In a Call Center, the supervisor can monitor the quality of service. However, some call centers do not want their supervisors to have the capability to observe the agents' personal calls. In some countries, there is a legal requirement to maintain the privacy of calls made by agents.

Without this feature, the supervisor can hear the agent's IDN (non-ACD) calls while observing the agent, even when the agent is logged out. This compromises the privacy of calls made by agents.

With this feature, the system administrator can choose three levels of restrictions on the observation of supervisors.

- No restrictions (RAO = NO)
The supervisor can observe any agent call. This is the default condition, and defines the supervisory function without this feature.
- Restrict Observe of IDN calls when logged out (RAO = YES)
The supervisor cannot observe agent IDN calls when the agent is logged out.
- Restrict Observe of all IDN calls (RAO = FULL)
The supervisor cannot observe any IDN calls by any agent regardless of whether the agent is logged-in or logged-out.

Operating parameters

The feature uses the Meridian 1 call processing software and the Meridian 1 Overlay 23 database administration program.

This feature does not impact hardware, firmware or loadware. There are no special limitations.

Feature interactions

In addition to the feature interactions for Agent Observe (Advanced), the following interactions apply to Agent Login Observe.

Hold

The audible tones for Agent Observe are not presented when an agent presses the Hold key. The tones are returned when the call on hold is restored. The supervisor can continue initiate observation of the agent, but hears nothing as the call is in a transient state.

ACD Call on Hold

Once the agent retrieves the held call, the supervisor is put in conference irrespective of the value of RAO and agent login status.

IDN Call on Hold

If RAO = No, the supervisor is put in conference once the agent retrieves the held call (whether the agent is logged-in or not).

If RAO = Yes, the supervisor is put in Observe Blocked state once the agent retrieves the held call in logged-out state. If the agent retrieves the held call in logged-in state, the supervisor is put in conference.

If RAO = Full, the supervisor was already put in Observe Blocked state against the IDN call. The supervisor is again put in Observe Blocked state when the agent retrieves the held call (irrespective of whether the agent is logged-in or logged-out).

Return to Queue on no Answer

The Return to Queue on no Answer, either logs out or puts the agent in NRD state if the agent fails to answer a ringing ACD call within the period entered at the RTQT prompt.

Agent Logged-out by RQNA when no IDN Call is Active

With RAO = Yes/Full, the supervisor enters the Observe Blocked state once the agent establishes an IDN call, if an agent under Continuous Observe establishes an IDN call.

Agent Logged-out by RQNA when an IDN call is on hold

If a logged-in agent puts in an IDN call and presses the InCalls key (i.e. when ACAA = Yes), the agent enters the idle agent queue and ACD calls are presented. If the agent fails to answer the ACD call before the RTQT (timer) times out, the agent is either logged-out or put in Not Ready state as configured by the RQNA feature.

If the agent is logged-out, the supervisor observing the agent enters the Observe Blocked state when the agent retrieves the held IDN call when RAO = Yes/Full. If the agent is put in the Not Ready state, the held call can be retrieved later and the agent can be observed by the supervisor when the call is retrieved if RAO = Yes.

Note: If an IDN call is on hold, for C and D customers, the NRD key press is ignored.

Network Blocking

If the supervisor activates Agent Observe when no conference loops are available, the OBV key on the supervisor's set flashes indicating that the supervisor cannot observe the agent at this time. When a conference loop becomes available, the OBV key lights up, and the supervisor can press the AGT key or can enter the agent's position-id to commence observation.

Multiple Queue Assignment Agents

With Multiple Queue Assignment (MQA), agents serving multiple queues are governed by the setting of the RAO option depending on which queue is being served. The ACD data block used to obtain these options will be the one associated with the call being served. Thus, it is possible that an agent may be serving multiple queues with different RAO definitions. For this reason, it is strongly recommended that the Restricted Agent Observe option be set similarly for all groups of ACD queues that individual agents may be serving simultaneously.

For an IDN call, the RAO option of the ACD queue for which the agent has most recently been served will be applicable while logged-in. Suppose that there are three queues A, B and C with RAO options set to NO, YES and FULL respectively. The logged-in agent answers an IDN call. If the most recently served ACD call was from:

— ACD queue A, the call is observable

- ACD queue B, the call is observable
- ACD queue C, the call cannot be observed

When the agent has logged-out, the RAO option of the ACD queue defined on key zero of the agent is applicable.

Feature packaging

This feature is part of the ACD advanced feature (ACD-B, package 41).

The Basic ACD package (BACD, package 40) is also required to provide this functionality.

Feature implementation

LD 23 – Configure “Restricted Agent Observe” (RAO).

This prompt accepts either “Yes”, “No” or “Full”. The default value is “No”. It is not case sensitive. Any other input to this prompt generates the error code SCH0101 (unable to match fields with stored mnemonics). The RAO prompt appears for ACD DN only.

Prompt	Response	Description
REQ	NEW CHG	Add new data Change existing data.
TYPE	ACD	Type of block
...	...	
SPCP	NO	Separate DCP from PCP indication
OBTN	NO	Observe tone options
RAO	NO	Restricted Agent Observe on Logout disabled. In such a case, the current functionality remains effective (default).
	YES	Restricted Agent Observe on logout enabled
	FULL	Restrict the supervisor from observing IDN calls from any of the agents at any time

Prompt	Response	Description
CWTH	xxxx	Number of calls waiting in queue before call waiting lamp lights
NCWL	NO	New call waiting lamp settings
...	...	

Feature operation

No specific operating procedures are required to use this feature.

Display Agents key (Basic)

A Display Agents key provides a summary of the status of all agents with AGT keys assigned to the supervisor. It gives a count of the number of agents in each of the four states at the moment the key is pressed. The following display is updated every time the Display Agents key is pressed.

aa—bb—cc—dd

Legend:

aa = the number of agents busy on ACD calls or in the Not Ready mode

bb = the number of agents waiting for ACD calls

cc = the number of agents busy on non-ACD calls

dd = the number of agent positions not occupied

If the associated Agent keys have not been configured or the agent position has not been configured, the display shows 00 in each of the fields in the display.

Alarm Management

The Alarm Management feature enhances and updates Meridian 1 operations, administration, and maintenance. Alarm Management provides overall alarm and fault handling, as well as refinements to Meridian 1 displays and alarm processes.

Alarm Management provides the following subfeatures:

- Event Collector
- Event Server
- Alarm Notification
- Escalation and Suppression Thresholds

This feature uses the following new command line input interface (input parser), which has the following general structure. This new command is entered at the command prompt “where”.

LD 117 – New Command Format

➔ **COMMAND OBJECT [(FIELD1 value (FIELD 2 value).....(FIELDx value)]**

With the Release 22 Alarm Management feature, all *processor-based system events* are processed and logged into a new disk-based System Event List (SEL). Events which are generated as a result of administration activities, such as SCH or ESN error messages, *are not* logged into the SEL. Events which are generated as a result of maintenance or system activities, like BUG and ERR error messages, *are* logged into the SEL. Unlike the previous System History File, this new System Event List survives Sysload, Initialization, and power failures.

The Event Collector

The Event Collector captures and maintains a list of all processor-based system events. The Event Collector also routes critical events to FIL TTY ports and lights the attendant console minor alarm lamp as appropriate. The System Event List (SEL) can be printed or browsed.

The Event Server

The Event Server has two components: the Event Default Table and the Event Preference Table.

Event Default Table

This table associates events with a default severity. By using the CHG EDT command in LD 117, the EDT can be overridden so that all events default to a severity of either INFO or MINOR. The EDT can be viewed in LD 117.

Table 6
Sample Event Default Table (EDT)

Error Code	Severity
ERR220	Critical
IOD6	Critical
BUG4001	Minor

Error codes which do not appear in the EDT will be assigned a default severity of MINOR.

The filter TTY only prints alarms that are marked as critical in the Event Default Table when upgrading to X11 Release 22 software. Alarms not marked as critical can be printed on the filter TTY by adding them to the Event Preference Table and changing the alarm severity to critical.

Event Preference Table

This table contains site-specific preferences for event severities as well as criteria for severity escalation and alarm suppression. The administrator can configure the EPT to:

- override the default event severity assigned by the default table
- escalate event severity of frequently occurring minor or major alarms

Table 7
Sample Event Preference Table (EPT)

Error Code	Severity	Escalate Threshold (events/60 sec.) (see Note 2)
ERR??? (see Note 1)	Critical	5
INI???	Default	7
BUG1??	Minor	0
HWI363	Major	3
<p>Note 1: The "?" is a wildcard. See the section below for an explanation of wildcard entries.</p> <p>Note 2: The window timer length defaults to 60 seconds. However, this value can be changed by the Administrator. Read "Global Window Timer Length" on page 124 for more information.</p>		

The special wildcard character "?" can be entered for the numeric segment of an error code entry in the EPT to represent a range of events. All events in the range indicated by the wildcard entry can then be assigned a particular severity or escalation threshold.

For example, if "ERR???" is entered and assigned a MAJOR severity in the EPT, all events from ERR0000 to ERR9999 are assigned MAJOR severity. If "BUG3?" is entered and assigned an escalation threshold of 5, the severity of all events from BUG0030 to BUG0039 will be escalated to the next higher severity if their occurrence rate exceeds 5 per time window.

Escalation and Suppression Thresholds

The escalation threshold specifies a number of events per window timer length that when exceeded, will cause the event severity to be escalated up one level. The window timer length is set to one minute by default. Escalation occurs only for minor or major alarms. Escalation threshold values must be less than the universal suppression threshold value.

A suppression threshold suppresses events that flood the system and applies to all events. It is set to 15 events per minute by default.

Global Window Timer Length

Both the escalation and suppression thresholds are measured within a global window timer length. The window timer length is set to one minute by default. However, the window timer length can be changed by using the CHG TIMER command in LD 117.

Alarm Notification

Alarm Notification has made improvements to the usage of the minor alarm lamp on Attendant Consoles. Existing procedure calls that activate or light the minor lamp have been removed. The minor lamp is now lit from a central location based upon alarm severity.

The severity of these alarms are determined by the Event Server for 11C, 51C, 61C, 81 and 81C systems and are managed in LD 117.

To receive alarm notification messages, the terminal or TTY must configure the prompt USER=FIL in LD 17. The response FIL allows alarm filtering message output. This configuration allows the system to print alarms.

The Meridian 1 now has four alarm severities: information, critical, major and minor. The Minor alarm lamp on the Attendant Consoles lights when critical alarms occur.

TTY Output Format of Events

TTY event output can be formatted or unformatted. Formatted output is also called fancy format. Output format is configured in LD 117 using the CHG FMT_OUTPUT command.

Fancy Format Output

The following is a sample of fancy format output:

*** BUG015 15/12/95 12:05:45 00345

EXPDATA: 04BEF0FC 05500FBA 05500EE2 05500EC6 05500EAA
BUG015 + 05500E72 + 05500E56 + 0550D96 + 055053A + 04D84E02 +
04D83CFC

BUG015 + 04D835CA 04D81BAE 04D7EABE 04F7EABE 04F7EDF2
04F7EFC 04F7E1B0

* ERR00220 15/12/92 12:05:27 00346

OPRDATA: 51

VAS0010 15/12/92 12:06:11 00347 VMBA VAS 5

Formatted output appears in the following template:

```
1<severity> <report id> <date> <time> <prim_seq_no> <cp_id> <cp_ad>
DESCTXT: <descriptive text>
OPRDATA: <operator data>
EXPDATA: <expert data>
```

Field	Description
<severity>	"****" (critical); "***" (major); "**" (minor); " " (blank for info).
<report id>	The report id consists of an event category (e.g. BUG, ERR, etc.) and an event number (1200, 230, etc.). It is padded with blanks at the end to ensure it is nine characters long (four characters max. for category and five digits max. for number). Examples of report ids are: ERR230, ACD3560, and BUG30.
<date>	DD/MM/YY.
<time>	HH:MM:SS.
<prim_seq_no>	Primary sequence number of the event (length of five digits).
<cp_id>	The Component ID is a 15 character string which indicates the id of the subsystem generating the alarm.
<cp_ad>	The Component address is a 15 character string which indicates the address of the subsystem generating the event.
<descriptive text>	This is an optional string which describes an event.
<operator data>	This is an optional field which holds a 160 character string containing extra text or data to assist the operator in clearing a fault. This field contains any data output with a filtered SL-1 alarm (e.g. loop number, TN, etc.).
<expert data>	This is an optional variable length character string which contains extra text or data for a system expert or designer.

Unformatted Output

Unformatted data consists of only the report ID and perhaps additional text. The following is a sample of unformatted output:

```
BUG015
BUG015 + 04BEF0FC 05500FBA 05500EE2 05500EAA 0550E8E
BUG015 + 05500E72 05500E56 05500D96 0550053A 04D84E02
BUG015 + 04D835CA 04D81BAE 04D7EABE 04F7EDF2 04F7E2FC
04&E1B0
BUG015 + 04F7E148
```

ERR00220 51
VAS0010

Operating parameters

Event Collector and Event Server

The Default Tables associate default severity classification with the event. Default event severities are predetermined and cannot be changed.

EDT can be overridden using the CHG EDT prompt in LD 117 so that all events default to either INFO or MINOR severity. This is useful when a user wants to manage alarm severity entirely by entering data in Event Preference Tables.

The Default Table is stored in a disk file but is scanned into memory on start-up for rapid run-time access.

The Event Preference Table is used to capture site preferences, to selectively override default event severity assigned by the default table, and to escalate event severity of frequently occurring minor or major alarms. This table supports “wildcarding”. The special wildcard character “?” only matches significant digits of the event number (e.g., BUG1??? would match all “BUG” messages in the range of 1000 to 1999 and BUG12? would match range of 120 to 129). When entering “BUG” messages, leading zeros do not have to be entered. As an example, BUG001 can be entered as BUG1.

The escalation threshold value specifies a number of events per minute that when exceeded will cause the event severity to escalate to another level. Escalation only occurs for minor and major alarms. A threshold value of zero (0) disables the escalation feature.

A universal suppression threshold is applied to all events and suppresses events that are flooding the system. The suppression is set to 15 events per minute by default.

Alarm Notification

Initialization preserves the status of Attendant Console alarm lamps.

Feature interactions

There are no feature interactions.

Feature packaging

With the exception of the Alarm Notification subfeature, the Alarm Management feature is optional. It is a major enhancement to the existing Meridian 1 Alarm Filtering (ALRM_FILTER) package 243.

Feature implementation

This feature introduces a new overlay, LD 117, for configuration and administration. A detailed listing of alarm management and fault clearing commands is contained in the *X11 Software Input/Output Guide*.

LD 117 – System Events List commands.

Command	Object)	Field's Valid Inputs/Range	Description
BROWSE	SEL	UP n	Browse up n # of lines in System Event Log (SELOG).
BROWSE	SEL	DOWN n	Browse down n # of lines in SELOG.
BROWSE	SEL	TOP n	Browse to top of SELOG.
BROWSE	SEL	BOT n	Browse to Bottom of SELOG.
BROWSE	SEL	FIND xxx	Browse forward to find string xxx in SELOG.
BROWSE	SEL	BFIND xxx	Browse backward to find string xxx in SELOG.
CHG	SELSIZE	n	Change System Event Log Size (Number of Events in Selog) n = 0 - (1000) - 3000.
PRT	SEL		Print active alarm list (number of records to be printed).
PRT	SELSIZE		Print system event log size.

LD 117 – Event Default Table commands.

Command	Object	Field's Valid Inputs/Range	Description
CHG	EDT	(NORMAL)	Use EDT default severities.
CHG	<i>EDT</i>	INFO	Override EDT; use INFO as default severity.
CHG	<i>EDT</i>	MINOR	Override EDT; use MINOR as default severity.
CHG	FMT	(OFF)	Turn off formatted output.
CHG	FMT	ON	Turn on formatted output.
PRT	<i>EDT</i>		Print entries in Event Default Table.
PRT	<i>EDT</i>	ALL	Print all entries in Event Default Table.
PRT	EDT	aa..a	Print a single entry.
PRT	<i>EDT</i>	aa..a bb..b	Print a range of entries.

LD 117 – Event Preference Table commands.

Command	Object	Field's Valid Inputs/Range	Description
NEW/CHG	EPT	aa...a (INFO)	Information severity.
NEW/CHG	EPT	aa...a EDT	Use NT-defined severity from EDT.
NEWCHG	EPT	aa...a MAJOR	Major severity.
NEW/CHG	EPT	aa...a MINOR	Minor severity.
NEW/CHG	EPT	aa...a CRITICAL	Critical severity.
NEW/CHG	EPT	aa...a (0)-SUPPRES s	Escalate value (must be less than SUPPRESS value).

CHG	SUPPRESS	n	Change global suppress for events (number of occurrences before event is suppressed), n = 0-(15)-127.
CHG	TIMER	n	Change global timer window length in minutes, n = (1)-60.
OUT	EPT	ALL	Delete all entries in Event Preference Table.
OUT	EPT	aa..aa	Delete a single Event Preference Table (EPT).
PRT	EPT	aa...a aa...a	Print range of entries in Event Preference Table.
PRT	EPT	aa...a	Print specific Event Preference Table (EPT) event.
PRT	EPT	ALL	Print all entries in Event Preference Table (EPT).
PRT	FMT	(OFF)	Turn off formatted output.
PRT	FMT	ON	Turn on formatted output.

Prior to Release 22 Fault Management

LD 17 – Configure the Alarm/Exception filter for systems other than 51C, 61C, 81 and 81C.

Prompt	Response	Description
REQ	CHG	Change configuration.
TYPE	ALARM	Alarm Filter configuration data.
FMT_OUTPUT (<fmt_output>)		Current configuration of core output formatting automatically printed by the system.
AF_STATUS (<af_status>)		Current configuration of alarm filter status automatically printed by system.
FMT_OUTPUT	ON (OFF) <CR>	Enable Formatted Output printing. Disable Formatted Output printing. Retain current FMT_OUTPUT value.
AF_STATUS	ON (OFF) <CR>	Enable alarm and exception filtering. Disable alarm and exception filtering. Retain current AF_STATUS value.
TIMER	(1)-60	Configure alarm timer window in minutes for suppression and escalation.
SUPPRESS	0-(15)-127	Alarm count before suppression. 0 count disables the alarm suppression.
A_FILTER	NEW CHG OUT X <CR>	Create a new alarm filter entry. Change parameters of an entry. Remove an entry. Same as OUT. Concludes filter entries. Go to E_FILTER prompt.
- TRIGGER	aa...a	An alarm report ID string consisting of a valid mnemonic and a numeric field (e.g., BUG123, OVL457) the chain of 1 to 10 characters in length. A question mark "?" can be used to indicate a wildcard entry for the numeric portion of the report ID (e.g., BUG???? includes BUG system messages from 0-9999). The mnemonics supported for this prompt are listed at the beginning of this overlay.

- SEVERITY	CRITICAL	Critical alarm – switch operational status in jeopardy.
	MAJOR	Major alarm – serious condition, but switch is operational.
	MINOR	Minor alarm – error condition detected.
	(NONE)	None – no rating.
	<CR>	Retain current value.
SEVERITY <severity>		The capital letters in the response indicate the minimum number of letters required as input before the system finds a match.
- ESCALATE:<#>	0-(2)-127	When an abbreviation for the severity is typed (e.g., "C"), the matching severity is printed (i.e., SEVERITY CRITICAL).
		Number of occurrences of alarm before it is escalated to critical severity over the global defined TIMER period. When the TIMER period has elapsed, the Interval Alarm counter is cleared.
		An entry of 0 disables alarm escalation.
		Escalate can only be configured for MINOR and MAJOR alarms.
		Note: The core alarm filter is updated after the response to the ESCALATE prompt is inputted.
A_FILTER	<CR>	Concludes alarm filter entries. Go to E_FILTER prompt.
E_FILTER	NEW	Create a new exception filter entry.
	OUT	Remove exception filter entry.
	X	Same as OUT.
	<CR>	Concludes exception filter entries. Skip to the next gateway or REQ prompt.

Feature operation

No specific operating procedures are required to use this feature.

Introduced in X11 Release:	15.58H
Networking:	No

Alternative Conference Pad Levels

This feature allows different conference pad levels to be selected during configuration to control the audible levels for parties in a conference call. There are eight acceptable values, from zero to seven.

For additional information, see the Alternative Loss Plan and Alternative Loss Plan for China feature descriptions contained within this document.

Operating parameters

There are no feature requirements.

Feature interactions

There are no interactions with other features.

Feature packaging

International Supplementary Features (SUPP) package 131.

Feature implementation

LD 15 – The value of the conference pad selection must be specified.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	CDB NET	Customer Data Block. Release 21 gate opener.
...		
- APAD	x y	Where: x = trunk pad selection y = conference pad selection Valid inputs for x are: (0) = default North America 1 = Australia 2 = UK BPC1031 4-wire TIE trunk 3 = UK BPC902 4-wire TIE trunk 4 = China 5-7 = future usage. Valid inputs for y are: (0) = default North America 1 = Alternative Conference pads selected The default = 0 when REQ = NEW. The default is the existing value when REC = CHG. Alternative Conference pads are only provided on specific Conference packs.

Feature operation

No specific operating procedures are required to use this feature.

Alternative Loss Plan

Customers can insert or remove, during administration, an alternative trunk-pad switching matrix using this feature. The loss-plan requirements of different countries can thus be satisfied. The alternative fixed trunk-pad matrix can be used in place of the standard pad switching matrix. Refer to the third page of this feature module for the pad switching matrix.

The customer selects the Alternative Loss Plan (APAD) option in LD 15 to access the alternative matrix. The default option is the use of the standard switching matrix.

The customer selects the Multifrequency Compelled (MFC) Class of Service in LD 14 to switch in the pad in the case of MFC Signaling. The Multifrequency Digit Level is also specified here.

Operating parameters

This feature is not to be used with 1.5 Mbit digital trunks.

Feature interactions

B34 Codec Static Loss Plan Downloading

The alternative loss plan tables must be enlarged as the default table is enlarged.

B34 Dynamic Loss Switching

The alternative loss plan tables must be enlarged as the default table is enlarged.

R2MFC 1.5 Mbps Digital Trunk Interface

Alternative Loss Plan is not supported on 1.5 Mbps DTI.

Feature packaging

International Supplementary Features (SUPP) package 131.

Feature implementation

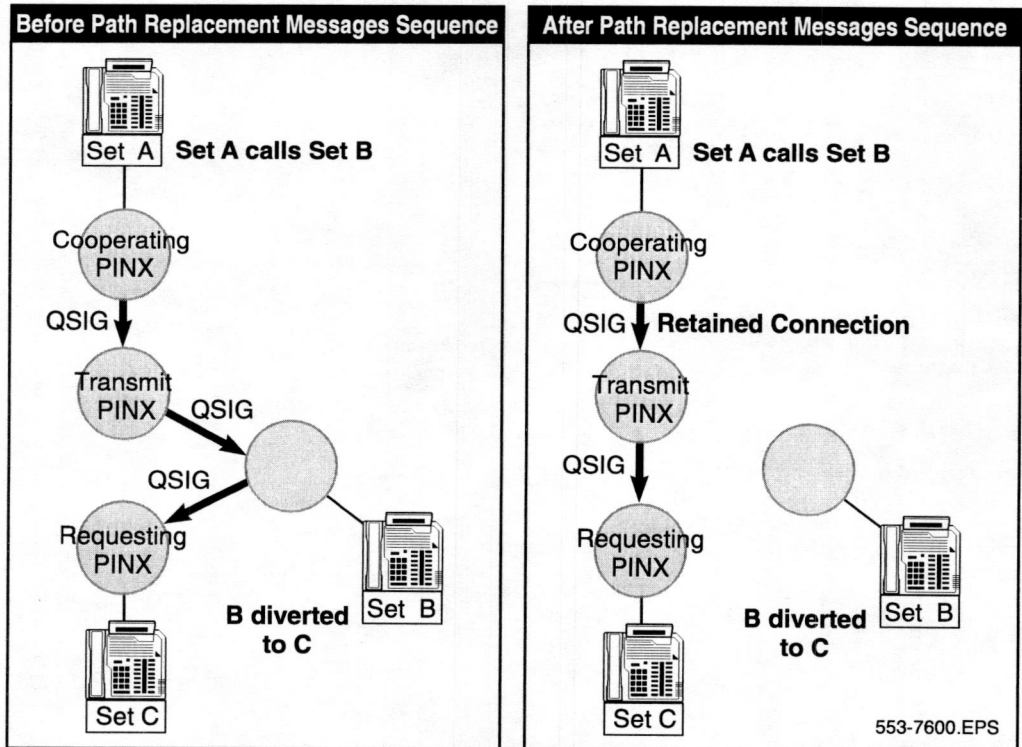
LD 14 – Trunk Data Blocks must be created or modified:

Prompt	Response	Description
TYPE	DID TIE	Add or change DID or TIE trunks.
CLS	MFC	R2 Multifrequency Compelled Signaling.
MFL	(0)-7	Input Multifrequency Digit Level required for signals to the PSTN.
MFPD	(NO) YES	Enter YES for pad in, and NO (the default) for pad out, during MFC signaling.

LD 15 – Create or Modify Customer Data Blocks:

Prompt	Response	Description
REQ	NEW CHG	Add, or change.
TYPE	CDB NET	Customer Data Block. Release 21 gate opener.
...		
- APAD	(0) 1 (2 - 7)	Alternative Pad Matrix. 0 = None 1 = Australia 4 = China 2, 3 and 5-7 = Future usage (currently set to default)

Figure 2
Alternative Loss Plan pad switching matrix



Feature operation

No specific operating procedures are required to use this feature.

Alternative Loss Plan for China

This enhancement introduces Alternative Trunk Pad Matrix 4 to be used for China.

At the present time, eight Alternative Trunk Pad Matrix Options are available to satisfy the loss plan requirements of various countries (although only five are being used):

0 – Standard, for North America

1 – Australia

2 – United Kingdom

3 – United Kingdom

4 – China

5-7 – Not used

Operating parameters

There are no feature requirements.

Feature interactions

There are no interactions with other features.

Feature packaging

International Supplementary Features (SUPP) package 131.

Feature implementation

LD 15 – Modify Customer Data Block to introduce Alternative Pad Matrix 4 for China.

Prompt	Response	Description
REQ	NEW CHG	Add, or change.
TYPE	CDB NET	Customer Data Block. Release 21 gate opener.
...		
- APAD	(0) 1 4	Alternative Pad Matrix. 0 = None. 1 = Australia. 4 = China.

Feature operation

No specific operating procedures are required to use this feature.

Alternative Routing for DID/DDD

The Alternative Routing for DID/DDD feature provides alternate routing for calls that are recognized as remote Direct Inward Dialing (DID) or Direct Distant Dialing (DDD) Special Numbers (SPN) in a private network. Low cost routing for off-network numbers is also supported.

The Alternative Routing for DID/DDD feature is an enhancement to the Off-net Number Recognition feature.

Refer to *Meridian 1 Electronic Switched Network Description* (309-3001-100) for further information on the Off-net Number Recognition feature.

Alternative Routing for DID/DDD

For the Alternative Routing for DID/DDD feature, a new type of number is introduced in the SDRR block. It is called the Alternate Routing Remote Number (ARRN). Following each SPN, and only SPNs, a customer can configure ARRNs. For each ARRN, it is also possible to configure an Alternate Route List Index (ARLI).

Call processing follows the same steps as for the Off-net Recognition feature. The expected digits are compared to the numbers defined in the SDRR Table.

If a match is not found, Route Selection is performed based on the RLI that is found in the table – one RLI corresponds to each SPN. Call processing resumes and the call is routed to the Central Office of the terminating Off-net number.

If a match is found, the following call treatments can occur:

- If the number is recognized as an ARRN, Route Selection with the ARLI defined for the ARRN is performed.

- If the number is in the denied block (such as, SDRR = DENY), standard call blocking takes place.
- If the number is recognized as terminating at the local switch (for instance, SDRR = LDID/LDDD), the call is terminated at the station DN for a DID call, or at the Attendant DN for a DDD call.
- If the number is recognized as terminating at a remote Meridian 1 or Central Office switch (for instance, SDRR = DID/DDD), Route Selection with the RLI that is defined for that SPN is performed.

If the route found uses a TIE trunk, then special digit manipulation is applied so that the proper numbers are outpulsed for the call to terminate at the station or attendant.

If the route found does not use a TIE trunk, then the call termination is processed by the current software with digit manipulation, if necessary.

Operating parameters

There are no feature requirements.

Feature interactions

When Special Numbers (SPN) are used in private network calls, all private network features are supported.

Feature packaging

The Alternative Routing for DID/DDD feature requires Flexible Numbering Plan (FNP) package 160, which depends on the following:

- Basic Routing (BRTE) package 14
- Network Class of Service (NCOS) package 32
- New Flexible Code Restriction (NFCR) package 49
- Basic Alternate Route Selection (BARS) package 57
- Network Alternate Route Selection (NARS) package 58
- Coordinated Dialing Plan (CDP) package 59
- Pretranslation (PXL) package 92
- Incoming Digit Conversion (IDC) package 113

- Integrated Digital Access (IDA) package 122
- Digital Private Network Signaling System 1 (DPNSS) package 123
- Digital Access Signaling System 2 (DASS2) package 124

Feature implementation

LD 90 – Respond to the following prompts to assign an ARRN and ARLI to an SPN:

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	SPN	Special code translation data block.
LOC	x...x	Location code (3 digits) or extended LOC (3-7 digits). Enter the location code (xxx) and extended code (xxxx) separated by a space.
- RLI		Respond to the RLI prompt with the Route List Index number from 0-255 (NARS).
...		
- SDRR	ARRN	Respond to the Supplemental Digit Restriction or Recognition prompt with ARRN (Alternate Routing Remote Number).
-- ARRN	x x	Respond to the ARRN prompt with the Alternate Routing Remote Number (up to five digits).
--- ARLI	0-255	Alternative Route List Index.

Feature operation

No specific operating procedures are required to use this feature.

Introduced in X11 Release:	17
Networking:	No

Application Module

The Application Module (AM), previously known as the Meridian Link Module, is an application processor providing an interface between a host computer and the Meridian 1, providing operations, administration, and maintenance capabilities. It is housed in the Application Equipment Module (AEM). Up to two Application Modules can be put into one AEM chassis in a redundant configuration.

Related documents

For complete information regarding the Application Module (AM), see the following documents:

- *Meridian Link description* (553-3201-110)
- *Application Equipment Module installation guide* (553-3201-200)
- *Meridian Link installation* (553-3201-210)
- *Meridian Link software guide* (553-3201-310)
- *Meridian Link diagnostic and maintenance* (553-3201-510)

Application Module Link

The Application Module Link (AML) provides supervisory and control functions for the link that allows host computers and other external processors access to Integrated Services Digital Network (ISDN) network services on the Meridian 1. The tasks performed by the Application Module Link include link activation, fault detection, maintenance, and traffic reporting. The AML provides the association of telephones with one or more DNs with the host computer. This allows a computer to access basic telephone features of the Meridian 1. Telemarketing, electronic mail, and other features can take full advantage of ISDN services using the AML.

Operating parameters

Refer to the *Application Module Link description* (553-3201-100).

Feature interaction

Refer to the *Application Module Link description* (553-3201-100).

Feature packaging

This feature is part of ISDN Application Module Link for Third Party Vendors (IAP3P) package 153, which requires:

- Command Status Link (CSL) package 77
- Digit Display (DDSP) package 19
- Automatic Call Distribution Package A (ACD-A) package 45
- ACD Package B (ACD-B) package 41

Feature implementation

Refer to the *Application Module Link description* (553-3201-100).

Feature operation

Refer to the *Application Module Link description* (553-3201-100).

Attendant Administration

Attendant Administration allows the attendant to modify a specific set of features that can be assigned to telephones. The console must have an alphanumeric display, and it must be assigned to the same customer group as the telephones on which the features are to be changed.

Attendant Administration is implemented by assigning a Program key on the flexible feature strip on the Attendant Console. The Program key and a four-digit password allow the attendant to enter the Program mode in a manner equivalent to logging into the Meridian 1 system from a system terminal.

When in the Program mode, the Attendant Console key/lamp strip functions are changed from normal call processing to the Attendant Administration programming functions. A plastic overlay is placed over the console key/lamp strips to indicate their programming functions.

The attendant inputs the information by pressing the appropriate key or by entering numbers or letters on the dial pad. The alphanumeric display shows the entered information and provides feedback from the system. The feedback includes the current status of the telephone, the prompts requesting input, and the messages indicating an input error.

The features that may be changed by Attendant Administration are listed below (any feature not included in the list cannot be modified or changed by the Attendant Administration feature):

- Call Forward (analog (500/2500 type) telephones only)
- Call Forward Busy (all telephones)
- Call Forward No Answer (all telephones)
- Call Pickup (all telephones)

- Call Pickup Group (all telephones)
- Call Transfer (analog (500/2500 type) telephones only)
- Call Waiting (analog (500/2500 type) telephones only)
- Dial Intercom Group (analog (500/2500 type) telephones only)
- Directory Number (analog (500/2500 type) telephones only)
- Hunt Directory Number (all telephones)
- Hunting (all telephones)
- Last Hunt Key (Meridian 1 proprietary telephones only)
- Message Waiting (all telephones)
- Permanent Hold (analog (500/2500 type) telephones only)
- Ring Again (analog (500/2500 type) telephones only)
- Meridian 1 proprietary telephone key assignments
- Speed Calling (analog (500/2500 type) telephones only), and
- Stored Number Redial (analog (500/2500 type) telephones only).

For details on feature operation, refer to the *X11 Attendant Administration user guide*.

Operating parameters

Calls cannot be initiated or received by the console while it is in the Program mode.

The attendant can only change data for the customer to which the console belongs.

The system generates Customer Service Change (CSC) messages that indicate changes made to individual telephones. These messages may be output on a system terminal or stored in the History File.

Attempting to change a telephone that is busy is not allowed. A busy telephone is defined as a telephone with any active or held calls or with any active features such as Autodial. There are exceptions. A telephone that has Call Forward All Calls or Make Set Busy activated can be modified.

During the time a telephone is undergoing feature changes by the attendant, it is made Maintenance Busy and is therefore inoperative.

If a console remains idle in the Program mode for 20 minutes, the Program mode is terminated and the console returns to Position Busy.

If an Attendant Console, maintenance telephone, or system terminal tries to log in to the system while another device is logged in, the system displays a message identifying the logged-in device. If a password is then entered, the login is accepted, forcing out the device previously logged in. A console forced out is returned to Position Busy and provided with an output message in the display to indicate what has occurred.

Unlike making service changes at a system terminal, when a Directory Number (DN) is entered for an analog (500/2500 type) telephone that appears elsewhere (as a mixed, Hunt, or Private Line DN), the associated error code (MIX, HUNT, or PVL) is not displayed. If the DN is not valid, an error code is displayed.

The database is automatically dumped during the midnight routine if a transaction has been successfully completed during the previous day. If this datadump fails, the minor alarm lamp on the console will light.

Feature interactions

Attendant Administration does not support the following features:

- Call Forward, Internal Calls
- Directory Number Delayed Ringing
- Message Registration
- Night Key for Direct Inward Dialing Digit Manipulation
- Period Pulse Metering
- Room Status
- Station Specific Authorization Code
- User Selectable Call Redirection

Attendant Console

It is not necessary to have the handset/headset plugged in while in the Program mode. Plugging in the handset/headset while in the Program mode has no effect.

Attendant Position Busy

If a console in the Attendant Administration mode is idle for more than 20 minutes, it automatically reverts to Position Busy. If the Meridian 1 system is initialized or reloaded while the console is in Attendant Administration mode, Attendant Administration is aborted and the console is placed in Position Busy.

Attendant Supervisory Console

Attendant Administration mode can be entered directly from the supervisory console from Supervisory or Normal mode by pressing the program (PRG) key. The Supervisory mode does not need to be terminated first.

Automatic Wake Up

The Attendant Administration feature does not support data entry or changes for the Automatic Wake Up feature.

Call Forward No Answer/Flexible Call Forward No Answer

Attendant Administration can assign and change a Flexible Call Forward No Answer DN with the function key on the Attendant Console.

Call Hold, Deluxe

Deluxe Hold (DHLD) cannot be administered through the Attendant Administration feature.

Console Presentation Group Level Services

Attendants can dial the access code and activate the Administration mode. In this mode, they can modify the configuration of any telephone for this customer.

Controlled Class of Service, Enhanced

Attendant Administration cannot change Controlled Class Service restrictions (CCRS), ECC1 or ECC2, but can assign CLS keys to certain telephones.

End-to-End Signaling

While in the Attendant Administration mode, pressing the Attendant End-to-End Signaling key is ignored.

Hot Line

Use of an Attendant Console to change the database for Enhanced Hot Line is not supported.

Initialize

The Attendant Administration password is preserved over an initialization and set to the value on the tape when the system is reloaded.

Multiple Appearance Directory Number Redirection Prime

Multiple Appearance Directory Number Redirection Prime (MARP) TNs cannot be added, moved, or deleted with Attendant Administration. The DN information that displays on the console includes the MARP designation if applicable.

Attendant Administration activities, like changing key assignments or DN appearance, can change MARP TN assignments. If so, the CSC102 message appears on the teletype (TTY) indicating a new default MARP TN, as follows:

CSC102 DN nnnn NEW MARP l s c u (c u)

where:

nnnn = the DN associated with the MARP TN

l s c u (c u) = the new MARP TN assigned to DN nnnn (c u for Option 11C)

Multi-Party Operations

Attendant Administration allows certain station Classes of Service to be altered. The operation of Attendant Administration is modified so that if an attendant tries to alter either XFA or XFD Class of Service, then Three-party Service (TSA) Class of Service is disallowed. The TSA and XFA Classes of Service are mutually exclusive. When XFA is assigned, TSA will be disallowed if it was not configured. XFD is not mutually exclusive with TSA, but TSA will not be automatically assigned if the Class of Service is changed to XFD. TSA Class of Service cannot be assigned through Attendant Administration.

This feature can not be used to setup the Three-party Service TSA Class of Service.

Phantom Terminal Numbers (TNs)

The Attendant Administration feature does not support Phantom TNs. Phantom DN's cannot be configured on a non-phantom TN.

Remote Call Forward

Attendant Administration does not support the telephone programming associated with Remote Call Forward.

Speed Call, System

System Speed Call lists can be assigned using Attendant Administration.

SYSLOAD

If the system initializes or reloads while the console is in the Program mode, Attendant Administration is aborted and the console returns to the Position Busy mode. Any service change since the last Prime DN prompt (for initialize) or since the last successful datadump (for system reload) is lost and must be input again.

Feature packaging

Attendant Administration (AA) package 54 requires Attendant Overflow Position (AOP) package 56.

Feature implementation

LD 15 – Assign an Attendant Administration access code.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB PWD	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- ATAC	xxxx	New or changed Attendant Administration access code (maximum four digits). X preceding the access code removes it.
-- PWD2	xxxx	This password is programmed in LD 17 at the PWD2 prompt.

LD 12 – Add/change Attendant Administration key.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	ATT 1250 2250	Console type.
CUST	xx	Customer number. CUST is prompted only when REQ = NEW.
TN	l s c u c u	Terminal Number. For Option 11C.
KEY	xx PRG	Add an Attendant Administration key.

Feature operation

For details on feature operation, refer to the *X11 Attendant Administration user guide*.

Attendant Alternative Answering

Attendant Alternative Answering (AAA) allows customers to define a timing threshold for attendant calls. After the predefined time, the unanswered call presented to an idle loop key on an Attendant Console is forwarded to a predefined DN for alternate answering.

An unanswered call is forwarded to an idle or busy alternate DN. The call is subject to further call modification depending on the database configuration for the alternate DN.

When a call is presented to an idle loop key on the Attendant Console, the following occurs:

- 1 The system checks the attendant for AAA eligibility by checking for the AAA timer. The AAA timer activates the AAA feature.
- 2 When the timer expires, the unanswered call is forwarded to the Attendant Alternative Answering DN (AAA DN) defined for an individual attendant. Calls forwarded to the AAA DN are subject to the individual telephone's features, independent of the attendant. It is possible that the DN rung is not be the AAA DN.
- 3 After the alternate telephone has been reached, the Attendant Console releases the call.

- 4 If call termination is unsuccessful at the AAA DN, an error message is generated that explains the problem:
 - If the error is because of an invalid AAA DN or tenant-to-tenant access denied condition, the call remains on the idle loop key for the attendant, and the AAA timer is not started again.
 - For all other errors, the call remains on the attendant loop key and the AAA timer is restarted. The sequence is repeated until the call is answered at the console, disconnected by the caller, or terminated at the AAA DN.

When an Automatic Wake Up (AWU) recall is presented to the AWU key on the Attendant Console, the following occurs:

- 1 The AWU key buzzes, and the associated indicator fast flashes.
- 2 The attendant presses the AWU key to accept the recall.
- 3 The attendant presses the RLS key to release the call. An AWU recall must be acknowledged before any other calls can be presented to the attendant.
- 4 With AAA, the AWU call is presented to the attendant for the duration of the AAA timer. If an AWU recall is not acknowledged before the timer threshold, the recall is returned to the attendant queue to be presented later. The AWU recall will not be forwarded to the AAA DN.

If the AAA DN does not answer, call treatment is defined by the features allowed for the originally dialed DN. If the originally dialed DN is the attendant, call treatment is defined by the features allowed for the AAA DN.

The order listed below reflects the precedence when one or more call forwarding features is equipped:

- 1 Call Forward All Calls
- 2 Message Center

- 3 Call Forward No Answer
 - Flexible Call Forward No Answer
 - Second Level Call Forward No Answer
 - Call Forward by Call Type
- 4 Automatic Timed Recalls (slow answer)

For an unanswered call presented to a busy AAA DN, treatment is defined by the features enabled for that customer and the AAA DN telephone.

The order listed below reflects the precedence when one or more call forwarding features is equipped on the AAA DN:

- 1 Call Forward All Calls
- 2 Hunting
- 3 Call Waiting
- 4 Message Waiting (Direct Inward Dialing [DID] calls only) (if Message Waiting Forward Busy (MWFB) is enabled in LD 15)
- 5 Call Forward Busy (DID calls only)

If no Call Forwarding feature is defined for the busy AAA DN, the call remains on the Attendant Console, and the AAA timer is restarted. When the AAA timer expires, the call is again forwarded to the AAA DN.

Operating parameters

Attendant Alternative Answering (AAA) is defined and applicable on a customer basis only, not at the Console Presentation Group (CPG) level. AAA only handles calls presented to the console, not calls in the attendant queue. It is recommended that the AAA DN assigned to an attendant be within the same CPG as the attendant.

Only 63 Attendant Consoles can be assigned per customer. Only one AAA DN can be assigned per attendant; therefore, this feature is limited to 63 AAA DNs per customer, one for each Attendant Console.

With Night Service (NSVC) enabled and active, calls are rerouted to the Night Service DN. Calls presented to the NSVC DN are not subject to AAA.

The AAA DN must be a valid DN or ACD DN. If invalid, the call stays on the console.

The AAA DN defined is not subject to pretranslation. The AAA DN must be the actual DN.

This feature allows more than one backup of the attendant to be available, provided the designated alternative DN is defined as a member of a Call Pickup group or as a Multiple Appearance DN.

Feature interactions

Attendant Overflow Position

The Attendant Overflow Position (AOP) DN handles calls from the attendant queue if all Attendant Consoles are busy or in the Position Busy mode. Calls presented to the AOP DN are not subject to AAA.

Attendant Recall

Under Attendant Recall (ARC) conditions, the initiator of the recall rings the destination side of the console, and the third party becomes the source. The AAA timer is applied to the source party. If the AAA timer expires, the destination is dropped, and the source is forwarded to the AAA DN. If the source party disconnects before the destination party, the AAA timer is restarted on the destination party still buzzing the attendant through the ARC key. The AAA timer is dropped if both parties disconnect.

Call Forward All Calls

Call Forward All Calls takes precedence over all other Call Forwarding features for a particular telephone. Calls forwarded by AAA are subject to the Call Forwarding conditions on the AAA DN.

Call Forward Busy

If Call Forward Busy is allowed for the AAA DN (and that DN is busy), a DID call is returned to the attendant and can again be eligible for AAA timing and operation.

Call Forward by Call Type

If Call Forward by Call Type is enabled on the AAA DN, calls are forwarded based on the Call Type of the originator.

Call Forward No Answer

When the AAA DN does not answer, the call can be forwarded by Call Forward No Answer (CFNA) to the DN defined as the CFNA DN for the originally dialed DN. If the originally dialed DN is the attendant, the call is forwarded to the CFNA DN defined for the AAA DN.

Call Pickup

The AAA DN can be assigned to a Call Pickup group to allow members of the same group to answer the call.

Centralized Attendant Service

The AAA timer is not applied to Centralized Attendant Service (CAS) calls routed from the remote CAS location through the Release Link Trunk to the main CAS attendant. All other internal or trunk calls presented to the CAS attendant at the main location are timed by AAA as usual.

If the remote CAS attendant presses the CAS key while a call is being presented, the presented call is subject to AAA timing and is forwarded to the AAA DN at the remote location after the timer expires.

Do Not Disturb

A DN in the Do Not Disturb (DND) mode is free to originate calls but appears busy to incoming calls. Call Forward All Calls takes precedence over DND indication on AAA DNs.

Group Hunt

A Pilot DN can be defined as an alternative DN. Calls forwarded to a Pilot DN as an alternative DN are directed to the next DN in the group.

Hunting

Calls directed to a busy AAA DN with Hunt defined are routed down the Hunt chain as defined for the AAA DN.

A Pilot DN for a hunting group can be defined as an AAA DN. Calls forwarded to a Pilot DN are directed to the next DN in the group.

Manual Line Service

When Attendant Alternative Answering (AAA) is defined, Manual Line Service follows the AAA parameters.

Message Center

If the AAA DN is a Message Center (MWC), then a Message Center call to the attendant and forwarded by AAA is still treated like a Message Center call.

Multi-Tenant Service

Tenant-to-tenant access must be allowed between an internal caller and the AAA DN. If caller-to-AAA access is denied, the call remains on the console until the call is answered or dropped.

Feature packaging

Attendant Alternative Answering (AAA) package 174 has no feature package dependencies; however, this package is mutually exclusive with Attendant Forward No Answer (AFNA) package 134.

Feature implementation

LD 15 – Implement the Attendant Alternate Answering feature in the Customer Data Block.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- ATIM	(0)-126	AAA timer in two-second increments. Odd numbers are rounded down. ATIM = 0 disables the feature

LD 12 – Define the AAA DN for each Attendant Console affected.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	ATT 1250 2250	Console type.
TN	l s c u c u	Terminal Number. For Option 11C.
AADN	xxx...x	Attendant Alternative Answering DN.

Feature operation

No specific operating procedures are required to use this feature.

Attendant Barge-In

Attendant Barge-In allows the attendant to establish a connection with any trunk in the system to verify that the trunk is in working order. When Barge-In is active, a 256 millisecond burst of tone is sent to the connected parties every six seconds to indicate the presence of the attendant.

Operating parameters

Barge-In can only be used for trunks with Warning Tone Allowed (WTA) Class of Service. All parties connected to the trunk when the attendant attempts to barge in must have WTA Class of Service.

If equipped, the Barge-In key must be assigned to key 1 of the console flexible feature strip.

The system must be equipped with a conference loop.

Feature interactions

Automatic Redial

Attendant Barge In is not allowed to a trunk that is currently used for the Automatic Redial call redialing. This is done to avoid creating a conference when the tone detector is involved.

Call Forward/Hunt Override Via Flexible Feature Code

Using Call Forward/Hunt Override Via FFC after activation of Barge-in, Busy Verify or Break-in is not allowed. Attempts will be canceled and overflow tone will be returned.

Using post-dial Break-in after dialing the Call Forward/Hunt Override FFC is possible after encountering a busy set, if Break-in is enabled.

Call Page Network Wide

For external Call Page Network Wide (PAGENET) uncontrolled calls, Attendant Barge-In is blocked at the Paging node, per existing operation. For external PAGENET controlled calls, Attendant Barge In is blocked at both the originating and Paging node.

Charge Account and Calling Party Name

A charge account number cannot be entered when Attendant Barge-In or Attendant Busy Verify is active. Barge-In cannot be used to connect to a trunk after an account number has been entered.

China – Attendant Monitor

When China (CHINA) package 285 is equipped, the normal operation of Barge-In changes slightly. The repeatable tone is now configurable with the (TOA)/TOD option.

If an attendant is monitoring a trunk, a second attendant defined at the same customer location is blocked from Barging In to any trunk involved in the monitored call.

If an attendant is Barged-In with a trunk, a second attendant defined at the same customer location will be blocked from monitoring any party involved in the monitored call.

Conference

Conference Control cannot be activated if an attendant has used Barge-In or during a conference that involves a trunk.

End-to-End Signaling

While in the Attendant Barge-In mode, the console cannot enter Attendant End-to-End Signaling mode.

Intercept Computer Dial from Directory - Pre-dial Operations

It is possible for an attendant to Barge-in the following manner:

- Press an idle loop key, and press the Barge-in key from the attendant console.
- Dial a Route Access code and Route member from the ICT (which must be configured in such a way that it is possible to dial the Route access code and Route member from the dialing key).

ISDN Semi Permanent Connections for Australia

When an attendant attempts to Barge-In on 2.0 Mbps Primary Rate Interface B-channel used as an ISPC link with the Central Office, a fast busy tone is provided.

Uninterrupted Line Connections

Attendant Barge-In cannot be applied to stations with a Warning Tone Denied Class of Service.

Feature packaging

Attendant Barge-In is included in base X11 system software.

Feature implementation

LD 12 – Add/change a Barge-In key on Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	ATT 1250 2250	Console type.
TN	l s c u c u	Terminal Number. For Option 11C.
KEY	1 BIN	Add a Barge-In key.

LD 10 – Allow/deny a warning tone Class of Service for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(WTA) WTD	(Allow) deny warning tone.

LD 11 – Allow/deny a warning tone Class of Service for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(WTA) WTD	(Allow) deny warning tone.

LD 14 – Allow/deny warning tone Class of Service for trunks.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	COT DID FEX RAN TIE WATS	Trunk type.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(WTA) WTD	(Allow) deny warning tone.

Feature operation

To establish a connection on a trunk, follow these steps:

- 1 Select an idle loop key.
- 2 Press **Barge-In**.
- 3 Dial the route access code and the trunk member number, followed by the octothorpe (#).

Possible results are:

- dial tone (trunk is idle and working)
- conversation (trunk is busy and working)
- modem carrier tone (long distance trunk is working), and
- fast busy (trunk is either disabled or has Warning Tone Denied Class of Service).

If you hear fast busy, check the trunk again before reporting a problem.

Attendant Blocking of Directory Number

Attendant Blocking of Directory Number (DN) allows a person to dial the attendant DN and request an external (long distance) call, and then disconnect while waiting for the call to be processed by the attendant. The requesting DN is idle and can receive and make calls.

When the attendant is ready to make the external (long distance) call, the Attendant Blocking of DN feature provides the attendant with the ability to block the DN while the external call request is being processed. The line appears busy to any caller attempting to contact the blocked DN. The blocked DN cannot be used to originate a call and will be connected to the attendant if it goes off hook. When the attendant has completed the external call, the blocked DN can be rung and the call extended. The attendant is guaranteed that the requesting DN is not busy and is available to take the call when the processing has been completed. This feature works in both standalone and Meridian Customer Defined Network (MCDN) environments.

Previously, this feature had only been available on Swedish A345 PBXs, but now is also available on the Meridian 1. Although developed for Telia Sweden, the feature is applicable to all marketplaces desiring Attendant Blocking of DN functionality.

Operating parameters

The Attendant Blocking of DN feature can only be activated as the source party of the Loop key on the Attendant Console.

The attendant has the ability to use the Attendant Blocking of DN feature only for the following types of DNs: sets with ordinary Single Call Arrangement Non Ringing key (SCN)/Single Call Arrangement Ringing key (SCR) DNs and analog (500/2500 type) telephones. HOT DNs, Multiple Call Arrangement Non Ringing key (MCN)/Multiple Call Arrangement Ringing key (MCR) DNs, Automatic Call Distribution (ACD) DNs, Primary Line DNs (PLDNs), any trunk access code, Flexible Feature Codes (FFCs), Basic Rate Interface (BRI) and all other types of extensions are considered to be invalid for the Attendant Blocking of DN feature.

When the Attendant Blocking of DN feature is activated for a DN, it is only the DN dialed that is blocked. Other DNs assigned to the set will be idle.

If Attendant Blocking of DN is attempted on a Multiple Appearance Single Call Arrangement DN, all idle appearances of the DN will be blocked.

The Attendant Blocking of DN will only be supported on the following Attendant Console types: M2250; M1250; QCW4; QCW8; or M345CD.

No new hardware is required for this feature.

Feature interactions

Advice of Charge for EuroISDN

For Advice of Charge at start of the call (AOC-S) and during the call (AOC-D), charging information is assigned respectively to the Attendant and the set's Message Registration (MR) meters for the charge incurred before and after the call transfer completion by an attendant. Advice of Charge at end of the call (AOC-E) charging information is assigned to the set's MR meter.

Attendant Hold

An Attendant Blocking of DN call can be put on hold by the attendant and will in this case be subject to normal Attendant Hold treatment. The Semi-automatic Camp-on (SACP) key lamp will be dark while on hold and be lit again when taken off hold. The same applies to Automatic Hold on the Loop key.

Automatic Call Distribution

It is not possible to activate the Attendant Blocking of DN feature for an Automatic Call Distribution (ACD) DN. If an attempt to block an ACD DN is made, the attempt will be canceled and overflow tone will be returned. However, individual DNs on ACD sets can be blocked.

Automatic Redial

An Automatic Redial (ARDL) redialed call is blocked from the calling party if an attendant uses the Attendant Blocking of Directory Number feature on the calling party's DN.

Break-in

The Attendant Blocking of DN and the source side Predial Break-in features are mutually exclusive for the same call. If the SACP key lamp is lit when the Break-in key is pressed to start a Predial Break-in attempt, the Break-in key is ignored. On the contrary, if the Break-in key lamp is lit and no call attempt is made on the source side when the SACP key is pressed to start an Attendant Blocking of DN, the SACP key is ignored.

If a Break-in attempt is made for an Attendant Blocking of DN call, the Break-in attempt will be considered to be temporarily denied.

It will be possible to Break-in on the destination side with an Attendant Blocking of DN call on the source side of the Attendant Console. The same limitations to Break-in will apply as if the source side call is a normal call.

Busy Lamp Field/Enhanced Busy Lamp Field

When a DN is blocked due to the Attendant Blocking of DN feature, the Busy Lamp Field/Enhanced Busy Lamp Field lamp corresponding to this DN displays the busy status of the DN as for ringing calls.

Busy Verify

The Attendant Blocking of DN and source-side Busy Verify are mutually exclusive for the same call. If the SACP key lamp is lit when the Busy Verify key is pressed to start a Busy Verify attempt, the Busy Verify key is ignored. On the contrary, if the Busy Verify lamp is lit when the SACP key is pressed to start an Attendant Blocking of DN attempt, the SACP key is ignored.

If a Busy Verify attempt is made on an Attendant Blocking of DN call, it will be denied.

Call Detail Recording Time to Answer

If the CDR Time to Answer feature is active, the time registration before answer will be started when the SACP key is pressed to ring the blocked DN and not when the DN is blocked.

Call Forward All Calls

Call Forward, Internal Calls

Call Forward and Busy Status

The Attendant Blocking of DN feature will override these Call Forward features. If the dialed DN of the set is idle, the DN can be blocked; if the DN is busy, busy tone will be heard.

Call Forward/Hunt Override Via Flexible Feature Code

Using Call Forward/Hunt Override FFC after activation of ABDN is not allowed. Any attempt will be canceled and overflow tone will be returned.

Using post-dial Break-in after dialing the Call Forward/Hunt Override FFC is possible after encountering a busy set, if Break-in is enabled.

Call Forward No Answer

The Attendant Blocking of DN feature will override the Call Forward No Answer feature. If the blocked DN of the set has the Call Forward No Answer feature active when the SACP key is pressed to ring the DN, the DN will ring until answered or disconnected. No Call Forward No Answer will be done for the Attendant Blocking of DN call.

Call Park

It is not possible to park an Attendant Blocking of DN call. If a Call Park call recalls to a blocked DN, the recall will be treated as if the DN is in a ringing state.

Call Waiting

If a set that has the Station-to station Call Waiting feature active (CLS SWA and a Call Waiting (CWT) key for SL-1 and digital sets) is idle when an Attendant Blocking of DN attempt is made, the Attendant Blocking of DN attempt will be allowed and processed as normal. If the DN is idle and there is an active call on the Call Waiting key, the Attendant Blocking of DN attempt will be allowed.

If a set has the Station-to-station Call Waiting feature active and the DN to be blocked is busy when an Attendant Blocking of DN attempt is made, the Attendant Blocking of DN attempt will be canceled and busy tone will be returned.

For a set that has the Call Waiting (or Station-to-station Call Waiting) feature active and a DN is blocked due to the Attendant Blocking of DN feature, any incoming call to the blocked DN will receive busy tone.

Camp-on

Camp-on will be denied for a DN that is blocked due to the Attendant Blocking of DN feature.

Digital Private Signaling System #1 (DPNSS1) Executive Intrusion

If an Executive Intrusion attempt is made for an Attendant Blocking of DN call, the Executive Intrusion attempt is denied.

Directory Number Delayed Ringing

The Attendant Blocking of DN feature will override the Directory Number Delayed Ringing feature and ring the blocked DN immediately when the SACP key is pressed to ring the blocked DN.

Do Not Disturb

The Attendant Blocking of DN feature will override the Do Not Disturb feature. If the dialed DN of the set that has the Do Not Disturb feature active is idle, the DN will be blocked and if the DN is busy, busy tone will be heard.

Flexible Feature Code Boss Secretarial Filtering

The Flexible Feature Code (FFC) Boss Secretarial Filtering feature will be overridden. If an Attendant Blocking of DN attempt is made for a set that has the Boss Secretary Filtering feature active, the dialed DN will be blocked if idle. If it is busy, busy tone will be heard.

Flexible Feature Codes

If a Flexible Feature Code is dialed after pressing the SACP key to initiate an Attendant Blocking of DN attempt, overflow tone will be provided and the attempt cancelled.

Group Hunting

It is not possible to activate the Attendant Blocking of DN feature for a Pilot DN (PLDN). If an attempt is made to block a PLDN, the attempt will be canceled and overflow tone will be returned. If a DN that is a member in a Group Hunt (or Hunt) list is blocked by the Attendant Blocking of DN feature, the DN is considered to be busy.

HOT DN

It is not possible to activate Attendant Blocking of DN for a HOT DN extension. If an attempt to block a HOT DN extension is made, the attempt will be canceled and overflow tone will be returned.

Hunting

If Attendant Blocking of DN is attempted on a busy DN having the Hunting feature active, busy tone will be returned (overriding the Hunting feature).

Idle Extension Notification

The Attendant Blocking of DN feature and the Idle Extension feature both use the SACP key for feature activation on the source side of the Attendant Console. The difference is that Attendant Blocking of DN only is valid when dialing a DN, whereas Idle Extension Notification only is valid when a busy DN is reached. If an Attendant Blocking of DN attempt is made for a DN that is busy, the Attendant Blocking of DN is canceled and it is possible to activate the Idle Extension Notification feature for the busy DN.

Intercept Computer Interface

The Attendant Blocking of DN feature will override the Intercept Computer Interface (ICP) Call Forward feature. If the dialed DN of the set that has the ICP Call Forward feature active is idle, the DN will be blocked and if the DN is busy, busy tone will be heard.

ISDN Basic Rate Interface (BRI) Trunk Access

It is possible to use the Attendant Blocking of DN feature in an ISDN MCDN based on BRI TIE trunks if Network Attendant Service (NAS) is configured in the network.

Line Lockout

If an Attendant Blocking of DN attempt is made on a set in Line Lockout state, busy tone will be returned.

Make Set Busy

The Attendant Blocking of DN feature will override the Make Set Busy feature. If the dialed DN of the set that has the Make Set Busy feature is idle, the DN will be blocked and if the DN is busy, busy tone will be heard.

Multiple Appearance Multiple Call Arrangement

It is not possible to activate the Attendant Blocking of DN feature for a Multiple Appearance Multiple Call Arrangement DN (MCA DN (MCN/MCR)). If an attempt is made to block an MCA DN (MCN/MCR), the attempt will be canceled and overflow tone will be returned.

Multiple Appearance Single Call Arrangement

If Attendant Blocking of DN is attempted on a Multiple Appearance Single Call Arrangement DN (SCA DN (SCN/SCR)), all appearances of the DN will be blocked.

Network Intercom

A Hot Type I key cannot be blocked by the attendant, because it has no DN.

Pressing a Hot Type D key that is attendant blocked establishes the call on the source side of the attendant.

New Flexible Code Restriction

When the attendant has a blocked DN on the source side and dials on the destination side, any New Flexible Code Restriction active for the set of the blocked DN will be overridden. This is the same as if the attendant had a normal established call to the DN on the source side and dials the destination side.

Phantom Terminal Numbers (TNs)

DNs on Phantom TNs will not be overridden by the Attendant Blocking of DN feature.

Radio Paging

If a transferred Radio Paging call recalls to a blocked DN, the recall will be treated as if the DN is busy.

Ring Again

It is possible to activate Ring Again towards a DN that is blocked due to the Attendant Blocking of DN feature.

Ring Change Key

When the SACP key (or Signal Source) key is pressed to ring a blocked SCR where the Ring Change feature is activated, an audible ring signal will always be given. This is independent of the Ring Change status.

Ring/Hold LED Status

When a DN is blocked, the status of the DN lamp will be the same as for a call put on hold.

Semi-automatic Camp-on

The Attendant Blocking of DN feature uses the SACP key to activate a blocking attempt, but the Attendant Blocking of DN feature is only valid on the source side of the Attendant Console. The Semi-automatic Camp-on feature is only valid on the destination side of the Attendant Console.

To have the Attendant Blocking of DN feature available and not the Semi-automatic Camp-on feature, a new response to the SACP prompt has been introduced in LD 15. Prompt SACP = NO means the Semi-automatic Camp-on feature is not available even if the SACP package is equipped and an SACP key exists on the Attendant Console. To have the Semi-automatic Camp-on feature available the SACP prompt must be answered with SNGL or ALL which have the same meanings as before.

Signal Source

The Signal Source key can be used to notify a blocked DN. Using the Signal Source key for an Attendant Blocking of DN call will give the same response as the SACP key when the DN is blocked (i.e., ring the blocked DN and darken the SACP key lamp). The Signal Source key cannot be used to initiate an Attendant Blocking of DN call.

Single Call Non Ringing DN

When the SACP (or Signal Source) key is pressed to ring a blocked Single Call Non Ringing DN (SCN), an audible ring signal will be given.

Source Included when Attendant Dials

The Attendant Blocking of DN feature will follow the current Source Included when Attendant Dialing handling occurs.

Vacant Number Routing

The Attendant Blocking of DN feature will work across an ISDN network if the call is routed due to the Vacant Number Routing feature.

Feature packaging

The Attendant Blocking of DN feature is packaged under Semi-automatic Camp-on (SACP) package 181.

To work in an ISDN network environment, Network Attendant Services (NAS) package 159 is required.

Feature Implementation

LD 12 – Configure the SACP key on the Attendant Console.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	ATT 1250 2250	Attendant Console type.
TN	l s c u c u	Terminal Number. Terminal Number for the Option 11E.
...		
KEY	xx SACP	Semi-automatic Camp-on key.

LD 15 – This overlay has been modified to enable the Attendant Blocking of DN feature.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
...		

ATT	YES	Change Attendant Console options.
...		
- SACP	(NO) ALL SNGL	Semi-automatic Camp-on not allowed. Semi-automatic Camp-on for all Camp-on occurrences. Semi-automatic Camp-on on a per call basis.
- ABDN	(NO) YES	Activation of the Attendant Blocking of DN feature is (not) allowed. The ABDN prompt only appears when the SACP package is equipped.

Feature operation

To block a DN

- 1 The attendant presses an idle Loop key.
- 2 The attendant presses the Semi-automatic Camp-on (SACP) key.
- 3 The SACP key lamp lights.
- 4 The attendant dials the source DN that is to be blocked. If the dialed DN is idle, the DN lamp will have the same state as a call put on hold, but the DN will not ring. If the DN is busy, the attendant hears busy tone and the SACP key lamp darkens.

If the dialed DN is idle, it is blocked. The DN lamp indicates a call on hold state, although the DN will not ring (for analog (500/2500 type) telephones, there is no indication that the DN is blocked.) On the Attendant Console, the SACP key lamp remains lit and the Source key lamp begins blinking.

If the dialed DN is busy, the attendant presses the Release (or Release SRC) key to release the call.

To place an outgoing call for the blocked DN

- 1** The attendant establishes a call to the desired destination in the normal way.
- 2** The attendant presses the SACP (or Signal SRC) key. The ringback tone is heard.
- 3** If the source DN answers, the attendant presses the Release key to extend the call between the destination to the source.

To release a blocked DN

The attendant presses either the SACP key or Signal Source key to ring the DN

– or –

The attendant presses either the Release key or the Release Source key to release the source DN, which then becomes idle.

To notify a blocked DN of an established call

The attendant presses the SACP or Signal Source key.

Attendant Break-In

The Attendant Break-In (BKI) feature simplifies the process required if an attendant must break in to an established call. When an attendant receives an urgent call and dials the destination DN, that DN may be busy. The attendant may then have to break in to the call. This feature provides a new key, the Break-In key, on the Attendant Console, and allows the attendant to extend a call to a busy extension through a simple key operation.

Prior to X11 Release 20, the break-in process involved the following steps:

- 1 Release the busy (destination) DN upon receiving the busy tone.
- 2 Place the incoming call on hold.
- 3 Use an idle loop key followed by the Busy Verify key.
- 4 Redial the DN, breaking in to the established call.
- 5 Request that all parties disconnect from the call.
- 6 When the DN becomes idle, connect it to the incoming call.

With X11 Release 20 and later, the break-in process involves the following steps:

- 1 Use the Break-In key upon receiving the busy tone. This action establishes a conference between the attendant and the members of the established call (but excludes the incoming call). Parties hear the intrusion tone; secrecy is preserved.
- 2 Announce that an important call is waiting and request that the other parties disconnect from the call.
- 3 Extend the incoming call to the previously busy DN as soon as the other parties disconnect.

By using the Break-In key before dialing the destination DN, the attendant can override features such as Call Forward and Hunting.

Operating parameters

The Attendant Break-In feature is supported on analog (500/2500 type) telephones and Meridian 1 proprietary telephones.

A console can have only one Break-In key.

A break-in connection cannot be put on hold.

Only one attendant at a time can break in to a call.

Attendant Break-In does not operate in the following situations:

- A party to the established call has Override Denied or Warning Tone Denied Class of Service
- The established call involves any of the following:
 - An attendant
 - Multi-frequency Compelled (MFC) device type
 - Digitone Receiver (DTR) device type
 - Page trunk
 - Dictation trunk
 - Recorded Announcement trunk
 - Integrated Voice and Message System (IVMS)
- The destination DN is on an outgoing trunk call. If the station is involved with an outgoing trunk call, the call is established when End of Dialing (EOD) times out, the number is dialed, or the trunk is answered.

Feature interactions

Attendant Break-In to Inquiry Calls

All other interactions are the same as for the Attendant Break-In feature.

Attendant Busy Verify

With X11 Release 20 or later, the attendant can use the Break-In key instead of Busy Verify to break in to an established call. Attendant Break-In simplifies this process.

Automatic Call Distribution

Once the destination DN has established the call with the Automatic Call Distribution (ACD) agent, the attendant can break in to the call. If the destination DN is in the ACD queue, Attendant Break-In is temporarily denied.

Automatic Redial

Attendant Break-In and Attendant Busy Verify are not permitted on a Meridian 1 proprietary set that is used for an Automatic Redial (ARDL) call. These restrictions avoid creating a conference when the tone detector is involved in the call.

Busy Verify on Calling Party Control Call

Local Attendant Break-In will be temporarily denied if the desired party is already in a toll operator Break-In conference or on a Special Service call, or awaiting the Special Operator signal. Local attendant/toll operator Break-In will be temporarily denied if the desired party is established on an incoming toll call.

Call Forward All Calls

By pressing the Break-In key before dialing the destination DN, the attendant can override call forwarding on the destination DN. The attendant may not apply Camp-On to a telephone with Call Forward active.

Call Forward/Hunt Override Via Flexible Feature Code

Using Call Forward/Hunt Override Via FFC after activation of Barge-in, Busy Verify or Break-in is not allowed. Attempts will be canceled and overflow tone will be returned.

Using post-dial Break-in after dialing the Call Forward/Hunt Override FFC is possible after encountering a busy set, if Break-in is enabled.

Call Forward, Break-In and Hunt Internal and External Network Wide

If the Internal/External definition in LD 15 is set to YES, a call is treated as internal or external on a network wide basis.

Call Hold, Permanent

Call Park

The attendant cannot break in to a call on hold or a parked call.

Call Page Network Wide

For external Call Page Network Wide (PAGENET) uncontrolled calls, Attendant Barge-In is blocked at the Paging node, per existing operation. For external PAGENET controlled calls, Attendant Barge In is blocked at both the originating and Paging node.

Call Transfer

The attendant cannot break in to a call that is being transferred until the transferred call is connected.

Call Waiting

Camp-On

If the destination DN has a camped-on incoming trunk call, the attendant cannot extend the urgent incoming call as a Camp-On call.

Camp-on, Forced

Telephones with a toll operator break-in call cannot be camped on to. Overflow tone is returned to telephones attempting Forced Camp-on.

China – Attendant Monitor

If an attendant is monitoring a DN, a second attendant defined at the same customer site will be blocked from Breaking In to any party involved in the monitored call.

If an attendant is in a Break-In situation with a DN, a second attendant defined at the same customer site will be blocked from monitoring any party involved in the monitored call.

China Number 1 Signaling - Called Party Control

Attendant Break-In is not allowed on an outgoing Called Party Control call.

Conference

If the attendant cannot break in to a conference call because the call is supporting the maximum number of callers, busy tone continues and the Break-In key lamp flashes.

Digit Display

During Attendant Break-In, the Attendant Console Digit Display shows the DN of the incoming call and the destination DN until the attendant extends the incoming call to the destination DN and releases the connection.

Digital Private Signaling System #1 (DPNSS1) Executive Intrusion

Executive Intrusion and Break-In are mutually exclusive. Pressing the BKI key will activate Break-In or Executive Intrusion. In addition, intrusion is not allowed into a Break-In conference.

Group Hunt

Attendant Break-in will not be supported when dialing a Pilot DN directly.

Hold

The attendant cannot break in to a call on hold.

Hunting

If the destination DN is in a Hunting chain with some idle DNs, the Break-In request goes to the first idle DN in the chain. To prevent this occurrence, the attendant can press the Break-In key prior to dialing the destination DN.

Intercept Computer Dial from Directory - Post-dial Operation Attendant Break-in

An attendant can break-in to a call by:

— Dialing an extension DN from the Intercept Computer.

Pressing the Break-in key on the Attendant Console.

Make Set Busy Do Not Disturb

For a telephone with Make Set Busy or Do No Disturb in effect, Break-In is temporarily denied to the attendant. The Break-In lamp uses slow flash to indicate this situation. Using the Break-In key prior to dialing the destination DN circumvents this situation. After the Break-In, the telephone returns to its prior status.

If the controlling party goes on hook in a Break-In conference, and is being re-rung by the attendant, the ringing takes precedence over Make Set Busy that may be applied to the set.

Meridian 911 Call Abandon

Since an abandoned call does not have a speech path established, the Break-In deny treatment is given to the attendant so that Break-In cannot occur.

Multiple Appearance Directory Number Redirection Prime

The attendant may get a busy tone if all the telephones with the required DN are busy. Break-In permits the attendant to break in to the connection with the least restricted TN. Where more than one TN exists that meets this criterion, Break-In chooses the one at the bottom of the DN block.

Multi-Party Operations – Three-Party Service

Break-In is not allowed to the party receiving the patience tone or the misoperation ringback.

Multi-Party Operations Enhancements

Attendant Break-in is not allowed to a connection in which a party is receiving Patience Tone or recall of mis-operation ringback.

On Hold on Loudspeaker

It will not be possible to Break-in into a call on loudspeaker as it is effectively on hold at the set.

Override

When one Meridian 1 telephone has overridden an existing call to establish a conference call, Break-In is temporarily denied. The attendant is notified by the override tone.

Telephones with a toll operator break-in call cannot be overridden. Overflow tone is returned to telephones attempting Priority Override.

Override, Enhanced

Telephones with a toll operator break-in call cannot be camped on to or overridden. Overflow tone is returned to telephones attempting either Forced Camp-on or Priority Override.

Periodic Camp-on Tone

The Periodic Camp-On Tone has precedence over Break-In intrusion tone.

Semi-Automatic Camp-On

The attendant can Break-In to an established call and apply Semi-automatic Camp-On to the desired party. The attendant may press the SACP key before or after the Break-In.

Source Included when Attendant Dials

The operation of the Break-In feature is not affected, except that the source receives busy tone before the attendant presses the Break-In (BKI) key.

Trunk Barring

Trunk Barring does not result in intercept treatment for Toll Operator Break-In.

Feature packaging

Attendant Break-In (BKI) is package 127.

Feature implementation

LD 12 – Assign Break-In key on the Attendant Console.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	ATT 1250 2250	Attendant Console type.
TN	l s c u c u	Terminal Number. For Option 11C.
KEY	xx BKI	Break-In key.

Feature operation

The operator can press the Break-In key either before or after dialing the destination DN. Break-In operates slightly differently in these two situations, as described below.

For Post-Dial Break-In:

- 1 The attendant answers an incoming external call.
- 2 The attendant dials the destination DN.
- 3 The attendant receives the busy tone (unless the destination DN allows Camp-On or Call Waiting).
- 4 The attendant presses the Break-In key.
- 5 If allowed, the attendant joins the call on the destination DN to announce the incoming call and request that other parties disconnect. (See [Table 8](#) on [page 191](#) for an explanation of console break in states.)
- 6 After the other parties disconnect, the attendant extends the incoming call to the destination DN.

For Pre-Dial Break-In:

- 1 The attendant answers an incoming external call.
- 2 The attendant presses the Break-In key.
- 3 The attendant dials the destination DN.
- 4 If the destination DN is busy, the attendant hears the busy tone; processing is the same as for Post-Dial Break-In above.

If the destination DN is not busy, the DEST lamp flashes and the Break-In lamp goes dark. The attendant hears the ringback tone. Pressing the Break-In key a second time causes normal call processing for an idle line.

If the destination DN is invalid, the attendant hears the overflow tone and the Break-In lamp goes off. To return to the source call, the attendant presses the Release Destination key.

Table 8 describes the possible Attendant Console break in states. These states depend on several factors:

- whether the source call is an external call
- the type of call in effect at the destination DN
- the combination of features allowed at the destination DN, and
- whether the attendant pressed the Break-In key before or after dialing the destination DN.

Table 8
Attendant Console Break-In States

Console State	Lamp State	Description
ALLOW	Destination = LIT Break-In = LIT Tone = INTRUSION	The attendant can break in to the call and extend the incoming call.
CONSULT ONLY	Destination = FLASH Break-In = LIT Tone = INTRUSION	The attendant can break in to the call but cannot extend the incoming call.
TEMPORARILY DENIED 1	Destination = FLASH Break-In = FLASH Tone = BUSY/ OVERRIDE	The attendant temporarily cannot break in to the call, and may attempt the break in later.
TEMPORARILY DENIED 2	Destination = FAST FLASH Break-In = FLASH Tone = OVERFLOW	The attendant temporarily cannot break in to the call.
DENIED	Destination = FLASH Break-In = DARK Tone = OVERFLOW	The attendant cannot break in to the established call or extend the incoming call.
BREAK-IN IGNORED	Destination = FLASH Break-In = DARK Tone = RING BACK	The attendant cannot break in. The attendant should make a second break in attempt.
INVALID DN	Destination = FLASH Break-In = DARK Tone = OVERFLOW	The attendant attempted to reach an invalid DN. The attendant should dial the correct destination DN.

Attendant Break-In Busy Indication and Prevention

This feature, operating either in a standalone or Integrated Services Digital Network (ISDN) environment, provides enhancements to the Attendant Break-in feature. This feature is described more fully in 553-2921-100.

Break-in Busy Indication

If an attendant, during a break-in operation, dials a busy extension, the Attendant Console display provides one of the following customer-defined indications:

- three dashes, appended to the end of a digit display, (if the busy station is involved in an external call), or
- a mode digit, appended to the end of a digit display.

In a non-ISDN environment, the mode digit indicates one of these states:

1 = Station is busy on an external call, or station is busy on an off-net call.

2 = Station is busy on an internal call, or station is busy on an on-net call.

3 = Station is busy on a non-established call; for instance, dialing, ringing, or announcement. Or, station is busy on a conference call.

4 = Station is in line lockout.

In an ISDN Primary Rate Interface (PRI) environment, the mode digit indicates one of these states:

1 = Station is busy on an off-net call, or involved in a conference call.

2 = Station is busy with on-net call, and is not involved in a conference call.

3 = Station is busy on a non-established call; for instance, dialing, ringing, or announcement.

4 = Station is in line lockout.

Break-in Prevention

A Break-in to External Call Denied (BIXD) option is provided to the customer which, if selected, temporarily denies Break-in to a party involved in an external call. This applies to both pre-dial and post-dial Break-in operations.

Operating parameters

The same limitations apply as for the Attendant Break-In and Network Attendant Service (NAS) Break-In features.

Feature interactions

All of the same feature interactions apply as for the Break-in and Network Attendant Service Break-in features.

The appropriate busy indication is given to a Line Lockout Set which has been broken in on.

Feature packaging

Attendant Break-In Busy Indication and Prevention requires Attendant Break-in/Trunk Offer (BKI) package 127.

Feature implementation

LD 15 – Break-in Indication and Prevention options must be defined for each customer to have the feature.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
...		
- OPT	(BIXA) BIXD (BIND) BBIN EBIN	Break-in to external call (allowed) denied. Break-in Indication (denied), Basic Break-in Indication. Extended Break-in Indication.

Feature operation

For operating procedures, refer to the Attendant Break-In feature module in this guide.

Attendant Break-In to Inquiry Calls

The Attendant Break-In to Inquiry Calls feature allows an attendant to Break-In to an inquiry call. An inquiry call exists when two stations are established in a simple connection, and one station offers a call transfer to another station. The set making the call transfer becomes the controlling party, and the station receiving the call transfer becomes the active party. The other station is placed on hold and becomes the held party.

The attendant can Break-In to either the controlling or active party, in post-dial or pre-dial operation, by pressing the Break-In (BKI) key. After Break-In has occurred, a Break-In conference is established, with all parties receiving intrusion tone. While in the Break-In conference, the attendant has consultation status only – the attendant cannot extend a call from the source side.

The attendant cannot Break-In to the held call, to an inquiry call that is in the dialing state or ringing state, or to the active or controlling party if either of them has Warning Tone Denied Class of Service.

To release from the Break-In conference, the attendant presses either the RLS SRC key (to release from source) or RLS DEST key (to release from destination). The inquiry call is restored to its previous state.

Operating parameters

Once in the Break-In conference, the operation of the console Release key is ignored. The operation of the Transfer key (TRN) and Add-on Conference key (AO3/AO6) for Meridian 1 proprietary telephones is ignored. For analog (500/2500 type) telephones, a switchhook flash, ground button, or recall operation is ignored.

This feature does not allow the attendant to Break-In to a held party, controlling party while dialing, or the active party during ringing.

The attendant will be unable to Break-In on an inquiry call if either the controlling or active parties has a Warning Tone Denied (WTD) Class of Service.

Feature interactions

Attendant Break-In

All other interactions are the same as for the Attendant Break-In feature.

Attendant Break-In with Secrecy

Break-In with Secrecy interacts with Break-In to Inquiry Calls (BIEC) when the desired party has gone on-hook leaving an undesired party off-hook and excluded. BIEC has enhanced the existing BKI feature by giving overflow tone to the undesired party if it is a 500 type set (irrespective of whether the undesired party was involved in an inquiry call or not). BKIS does not change this operation for non-BKIS calls.

BKIS has a choice of options to be given to the undesired party if the desired party goes on-hook while the undesired party is excluded. These are taken from the AOCS options in the Customer Data Block. These options are not given to the undesired party if the undesired party has a call on hold, this only applies to analog (500/2500 type) telephones. The BIEC treatment of giving overflow tone is done instead so that the undesired party can be reconnected to the held party.

Therefore, it is quite possible for analog (500/2500 type) telephones and trunks to get different treatment depending on the circumstances.

The following is a list of treatments for different circumstances:

- Existing BKI BIEC disconnects undesired parties when the desired party goes on-hook, except for analog (500/2500 type) telephones where overflow is given. Therefore Meridian 1 proprietary telephones and trunks are disconnected.
- BKIS will give either overflow, transfer to attendant, or disconnect treatment to analog (500/2500 type) telephones or trunks. Meridian 1 proprietary telephones are disconnected.

Automatic Call Distribution Agent/Supervisory Consultation Calls

A consultation Call from an Automatic Call Distribution (ACD) agent to the supervisor, invoked on the Supervisor key on the agent set, is not considered as being an inquiry call and is not affected by the Break-In to Inquiry Calls feature.

Automatic Hold

A consultation call on a Meridian 1 proprietary telephone, using a second DN along with Automatic Hold, is not treated as an inquiry call. The consultation call may be broken-in to, but the call held on the first DN is not involved in the Break-In.

Call Forward All Calls/Call Forward No Answer/Call Forward by Call Type/Do Not Disturb

The operation of these features are overridden on a analog (500/2500 type) telephone that has inadvertently been placed on-hook during a Break-In conference to allow it to be re-rung by the attendant.

Call Forward All Calls/Call Forward No Answer/Make Set Busy/Do Not Disturb

If the controlling party goes on hook in a Break-In conference, and is being re-rung by the attendant, the ringing takes precedence over Call Forward All Calls/Call Forward No Answer/Make Set Busy/Do Not Disturb that may be applied to the set.

Digital Private Signaling System #1 (DPNSS1) Executive Intrusion

Executive Intrusion and Break-In are mutually exclusive. Pressing the BKI key will activate Break-In or Executive Intrusion. In addition, intrusion is not allowed into a Break-In conference.

Do Not Disturb

The operation of Do Not Disturb is overridden on a analog (500/2500 type) telephone that has inadvertently been placed on-hook during a Break-In conference to allow it to be re-rung by the attendant.

If the controlling party goes on hook in a Break-In conference, and is being re-rung by the attendant, the ringing takes precedence over Do Not Disturb that may be applied to the set.

Held Call Clearing

Held Call Clearing takes precedence over Break-In to Inquiry Calls.

Misoperation During Transfer/Inquiry

Break-In to Inquiry Calls takes precedence over Misoperation During Transfer/Inquiry on a Meridian 1 proprietary telephone inadvertently placed on-hook during a Break-In conference, for those cases where the misoperation treatment differs.

Feature packaging

Attendant Break-In/Trunk Offer (BKI) package 127.

Feature implementation

LD 12 – This feature is implemented when Break-In (BKI) is assigned to a console key.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	xxxx	Attendant Console type, where xxxx is: ATT, 1250, or 2250.
TN	I s c u c u	Terminal Number. For Option 11C.
KEY	xx BKI	Key number; Break-In.

Feature operation

For operating procedures, refer to the Attendant Break-In feature module in this guide.

Attendant Break-In to Lockout Set Denied

The Break-In to Lockout Set Denied (BKLS) enhancement provides an option to prevent an attendant from breaking in on a analog (500/2500 type) telephone that is in a line-lockout state. This feature is applied on a customer basis and has precedence over other line-lockout or Break-In functions.

Operating parameters

BKLS takes precedence over any other feature dealing with Break-In to a line lockout state.

Feature interactions

There are no interactions with other features.

Feature packaging

Attendant Break-In to Lockout Set Denied requires Attendant Break-In/Trunk Offer (BKI) package 127.

Feature implementation

LD 15 – Respond to the OPT prompt as follows:

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
...		
- OPT	(BLA) BLD	Break-In to Line Lockout Set (allowed) denied.

Feature operation

For operating procedures, refer to the Attendant Break-In feature module in this guide.

Attendant Break-In with Secrecy

The Attendant Break-In with Secrecy (BKIS) feature enhances the capabilities of the Attendant Break-In feature. When a Break-In conference (attendant, desired party and undesired party) is established and intrusion tone is provided, the attendant can press the Break-In (BKI) key again to exclude the undesired party and talk to the desired party without the intrusion tone.

BKIS applies to both predial and post-dial Break-In operations. In a post-dial situation, the attendant dials the desired party before pressing the BKI key. Whereas in a predial case, the attendant presses the BKI key prior to dialing the digits of the desired party.

BKIS operates in both standalone and within an Meridian Customer Defined Network (MCDN) Integrated Services Digital Network (ISDN) environment.

As stated previously the BKIS feature operates in an MCDN ISDN environment. In a MCDN ISDN environment BKIS is an enhancement of Network Attendant Service (NAS) Break-In (BKI). Please refer to *International ISDN PRA Associated feature descriptions* for more information regarding Network Attendant Service Break-In.

Operating parameters

The same feature requirements apply as for the Break-In feature.

Within an ISDN environment:

- All conditions for NAS Break-In must be met.
- In order for this feature to operate correctly over the network, all nodes connected to the attendant must have Break-In software equipped.

Feature interactions

Other than the interactions described below, the feature interactions are the same as for the Break-In and NAS Break-In features.

Break-In to Enquiry Calls

Break-In with Secrecy interacts with Break-In to Enquiry Calls (BIEC) when the desired party has gone on-hook leaving an undesired party off-hook and excluded. BIEC has enhanced the existing BKI feature by giving overflow tone to the undesired party if it is a 500 type set (irrespective of whether the undesired party was involved in an enquiry call or not). BKIS does not change this operation for non-BKIS calls.

BKIS has a choice of options to be given to the undesired party if the desired party goes on-hook while the undesired party is excluded. These are taken from the AOCS options in the Customer Data Block. These options are not given to the undesired party if the undesired party has a call on hold, this only applies to analog (500/2500 type) telephones. The BIEC treatment of giving overflow tone is done instead so that the undesired party can be reconnected to the held party.

Therefore, it is quite possible for analog (500/2500 type) telephones and trunks to get different treatment depending on the circumstances.

The following is a list of treatments for different circumstances:

- Existing BKI BIEC disconnects undesired parties when the desired party goes on-hook, except for analog (500/2500 type) telephones where overflow is given. Therefore Meridian 1 proprietary telephones and trunks are disconnected.
- BKIS will give either overflow, transfer to attendant, or disconnect treatment to analog (500/2500 type) telephones or trunks. Meridian 1 proprietary telephones are disconnected.

Digital Private Signaling System #1 (DPNSS1) Executive Intrusion

Executive Intrusion and Break-In are mutually exclusive. Pressing the BKI key will activate Break-In or Executive Intrusion. In addition, intrusion is not allowed into a Break-In conference.

Display

In all cases, when displays are equipped, the information displayed is consistent with current operation (i.e., when connected to only one party, the display shows the number and name, if equipped and configured, of that party, and when connected to more than one party, the display is blank).

Multi-Party Operation

For Multi-Party Operation (MPO), the operation of features, such as going on-hook and releasing from a call, during the BKIS conference between the attendant and the desired party, takes precedence over MPO operations for those cases where the treatment differs from that defined by the customer.

All network nodes must have MPO software, with identical Multiple-party Operation (MPO) options. Otherwise, MPO options in the desired party's node have precedence.

Pertaining to MPO options, if the undesired party is not located on the same node as the desired party, the undesired party is considered as an external party on the desired party node.

Music

During secrecy, if there is only one undesired party in the conference, music is not provided to this party when excluded. However, intrusion tone is given to this party.

Network Attendant Service (NAS)

The BKIS feature operates in a networking environment with regard to the NAS Break-In feature operations and limitations. Please refer to *International ISDN PRA Associated feature descriptions* for further information on the Network Attendant Service (NAS) feature.

Secrecy Enhancement

The source and destination parties cannot be joined together on the attendants conference bridge if BKIS is active. This is consistent with the existing Break-In feature.

Feature packaging

Attendant Break-In (BKI) is package 127.

In a MCDN ISDN environment, ISDN basic (ISDN) package 145, ISDN Supplementary Features (ISDNS) package 161, and Network Attendant Service (NAS) package 159 are required.

Multi-Party Operations (MPO) package 141 is optional, but if used in an MCDN ISDN environment all nodes must be equipped with the MPO package.

Feature implementation

LD 12 – Modify or create Attendant Console data blocks.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	xxxx	Attendant Console type, where: xxxx is: ATT, 1250, or 2250.
...		
AADN	...	
KEY	0-19 BKI	Key number assigned to Break-In.
...		

LD 15 – Modify Multi-Party Operations data in Customer Data Block if MPO package (141) is equipped.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB MPO	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
...		
MPOP	(NO) YES	Multi-Party Operations.
...		
- FMOP	(NO) YES	Flexible Misoperation Options.
-- AOCs	xxxyyy	All Other Cases, where: xxx is for internal calls and yyy or ATN is for external calls.
	AAR AAR	The transferring station is re-rung. If the transferring station fails to answer, the transferred station is routed to the attendant.
	ATN(ATN)	Attendant
	DAR DAR	The transferring station is re-rung. If the transferring station fails to answer, the transferred station is disconnected.
	(DIS) DIS	Disconnect
	OVF OVF	Overflow
	STD STD	Standard
...		

LD 20 – When the Attendant Console data block is printed the BKI key information is output.

Prompt	Response	Description
REQ	PRT	Request: Print data block.
TYPE	xxxx	Type of data block, where xxxx is: ATT, 1250, or 2250.
...		

LD 21 – When the Customer data block is printed all Multi-Party Operations options are output.

Prompt	Response	Description
REQ	PRT	Request: Print data block.
TYPE	CDB	Type of data block: Customer Data Block.
CUST	xx	Customer number.

Feature operation

Break-In to two-party connection

The following sections describe a post-dial Break-In. For predial Break-In, Break-In is done on the Source of the attendant and there is no party A calling the attendant, but the BKIS operation is identical.

The scenario is as follows:

Party A calls the attendant, the attendant calls party B who is talking to party C. The attendant presses the BKI key to intrude into the conversation. At this point, the attendant and both parties B and C are in conversation with intrusion tone provided, while party A is on HOLD (with music if EMUS, package 119, is equipped).

Break-In "Allowed"

This situation will arise when party A is an external call and Camp-on or Call Waiting is possible at the wanted station B. At this point, the BKI, Exclude Source (EXCL SRC) and Exclude Destination (EXCL DEST) indicators are active (lamps are lit or Liquid Crystal Display [LCD] is on), and the following actions can occur:

Request the unwanted party to terminate

The attendant may request the unwanted party to terminate. A positive response will terminate the conference that included the attendant and intrusion tone. This is a current BKI operation.

Request the wanted party to terminate

The attendant may request the wanted party to terminate the call. The party disconnects, terminating the BKI conference. This is a current BKI operation.

Attendant presses Release Destination key

The attendant may press the RLS DEST key to release the call. This action terminates the conference and the original call is reestablished as it was prior to Break-In. The Source party A is connected to the Attendant. This is a current BKI operation.

Attendant presses Exclude Destination key

The attendant may press the EXCL DEST key to return to the incoming call. The intruded parties keep receiving the intrusion tone. This is a current BKI operation.

Attendant presses Release key

The attendant may press the Release (RLS) key to apply Camp-on. This is a current BKI operation.

Attendant presses Break-In key *again*

The BKIS feature allows the attendant to press the BKI key *again* in order to exclude the undesired party C (who continues to hear intrusion tone) and to talk directly to the desired party B without intrusion tone. The BKI indicator, which was active, flashes at 60 impulses per minute (ipm).

Note: Pressing of the BKI key a second time with the Break-In conference excluded will not activate secrecy (i.e., if the Break-In conference is on the destination but the attendant is talking on the source, secrecy cannot be activated).

From this point, the following attendant operations can occur:

Attendant actions

Break-In

The attendant presses the flashing BKI key. In this case, party C, which was excluded, is brought back into conversation with the attendant, party B, and intrusion tone. The BKI indicator reverts to an active state. The situation reverts to a normal BKI conference with intrusion tone.

In other words, the lit BKI key can be used to exclude the unwanted party from the BKI conference and the flashing BKI key can be used to reestablish the BKI conference (with intrusion tone).

Exclude Destination

The attendant presses the EXCL DEST key to return to the incoming call. The attendant is connected to the source party. The unwanted party B and the wanted party C are reconnected with intrusion tone. The EXCL SRC indicator is now off and the EXCL DEST lamp and the BKI indicators are active. The operation of the EXCL DEST key has the same effect as for a normal BKI conference situation, as described previously.

Release

The attendant presses the RLS key to apply Camp-on. If Camp-on or Call Waiting is available, parties B and C are reconnected and party A is released and either Camp-on or Call Waiting is applied to the wanted party A. The BKI indicator is off. If Camp-on or Call Waiting is not available, the operation of the RLS key causes secrecy to be turned off and the situation to go back to the Break-In conference with intrusion tone. The loop can only be released by pressing the RLS DEST key, leaving the source connected to the attendant. The operation of the RLS key has the same effect as for a normal BKI conference situation, as described previously.

Release Destination

The attendant presses the RLS DEST key. The BKI, EXCL SRC, and EXCL DEST indicators are off and party A is connected to the attendant. Party B (desired) and party C (excluded party) are reconnected.

Undesired party action

Party C (undesired party) goes on-hook and is disconnected. Then the BKI indicator goes off and the attendant treats the call as a normal two-party connection. The attendant is talking directly to party B (desired party) and can press the RLS key to extend the call.

Desired party action

At this point, if party B (controlling party) goes on-hook, the treatment depends upon the Customer Data Block (LD 15) Multi-party Operations (MPO) Flexible Misoperation Options (FMOP) All Other Cases (AOCS) settings if the undesired party is a trunk or 500-type set and MPO package 141 is equipped. If the MPO package is not equipped, internal calls will be disconnected, while external calls will be rerouted to the attendant.

The following shows what happens to 500-type sets or trunks depending on the AOCS options:

AOCS set to AAR for party C

If AOCS is set to AAR for party C, then party C is routed to the attendant and party B is re-rung by the attendant. BKI indicator goes off and a simple call is set up between attendant and party B when B answers.

AOCS set to ATN for party C

If AOCS is set to ATN for party C, then party C is routed to the attendant while B is re-rung by the attendant. The BKI indicator goes off and the attendant hears ring back and the DEST indicator winks at 30 ipm. The attendant can extend the call as normal.

AOCS set to DAR for party C

If AOCS is set to DAR for party C, then party C is disconnected and party B is re-rung by the attendant. The BKI indicator goes off and when B answers a simple call exists between the attendant and party B.

AOCS set to DIS for party C

If AOCS is set to DIS for party C, then C is disconnected and party B is re-rung by the attendant. The BKI indicator goes off and the attendant hears ringback and the DEST indicator winks at 30 ipm. The attendant can then extend the call as normal.

AOCS set to OVF for party C

If AOCS is set to OVF then overflow tone is given to party C and party B is re-rung by the attendant. The BKI indicator goes off, the attendant hears ringback, and the DEST indicator winks at 30 ipm. The attendant can then extend the call as normal.

AOCS set to STD for party C

If AOCS is set to STD for party C, the treatment is the same as default for the AOCS option. If party C is internal, then DIS option applies to party C, and if party C is external, then ATN option applies to party C.

Break-In 'Consultation Only'

This console state indicates that the attendant has been allowed to Break-In to the desired party's call; however, the attendant will not be able to extend the originating call. This situation will occur under any of the following conditions:

- An internal call is on the source port of the Attendant Console.
- The attendant originated the call. In this case, the source indicator will be used instead of the destination indicator to provide status information (predial situation).
- An external call is on the source and neither Camp-on nor Call Waiting is possible at the wanted station (i.e., Camp-on or Call Waiting not possible or the station already has a call camped on).
- The desired station is busy with Call Forward active and the attendant initiated a predial Break-In.

The BKI and the EXCL SRC indicators are active, the DEST indicator is flashing. At this point, the attendant is not allowed to press the RLS key to extend the originating call, party A. The operation of the RLS key is ignored. This is a current BKI operation.

The attendant may press the BKI key to exclude party C and talk directly to party B, as described under the Attendant actions section. The BKI and DEST indicators are flashing. While in this state, the attendant is not allowed to press the RLS key to extend the originating call, party A. The operation of the RLS key causes the secrecy to be turned off and the situation to revert to a Break-In conference. The other operations described in the Attendant actions section are available.

Break-In to a conference

Party A (either internal or external) calls the attendant, the attendant calls party B who is involved in a conference call with parties C and D. The attendant presses the BKI key to intrude into the conversation. At this point, the attendant, party B and all the original conferees are in conversation with intrusion tone provided, while party A is on HOLD. The BKI and EXCL SRC indicators are active. The DEST indicator is flashing and the BKI status is 'Consultation Only'.

At this point, the attendant may press the BKI key to talk directly to party B without intrusion tone. The Break-In indicator flashes at 60 ipm. The original conference is excluded from party B (the other parties in the conference remain connected without intrusion tone). Party A is still excluded on the attendant loop and the attendant is talking directly to party B without intrusion tone.

While in this state, the following situations can occur:

Attendant actions

Break-In

The attendant may press the flashing BKI key. The original conference is reestablished with intrusion tone. The BKI indicator reverts to active.

Exclude Destination

The attendant may press the EXCL DEST key to return to the incoming call. The original conference is reestablished and party A is connected to the attendant.

Release

The attendant is not allowed to extend the original call to the wanted party B by pressing the RLS key. The operation of the RLS key causes the secrecy to be turned off and the situation reverts to a Break-In conference.

Release Destination

The attendant may press the RLS DEST key. The BKI, EXCL SRC and EXCL DEST indicators are off and party A is reconnected to the attendant. The original conference (B, C, and D) is reestablished.

Undesired party action

All but one of the conferees (C or D) go on-hook. The last undesired party will start getting the intrusion tone once again. The situation reverts to the previously described operation (See "Undesired party action" on page 211).

Desired party action

At this point, if party B goes on-hook, party B is re-rung by the attendant and the conferees are left in conference without party B and without intrusion tone. The BKI indicator goes off, the attendant hears ringback tone, and the DEST indicator winks at 30 ipm. The attendant can extend the call as normal.

Table 9 is a summary of possible Break-In situations and indications.

Table 9
Summary of possible Break-In situations and indications

State	Operation	SRC or DEST Indicator	Break-In Indicator	Tone
1. Allowed	a) post-dial	ACTIVE	ACTIVE	intrusion
	predial	ACTIVE	ACTIVE	busy
	b) post-dial	ACTIVE	OFF	none
	predial	ACTIVE	ACTIVE->OFF	override
2. Consultation Only	a) post-dial	FLASH	ACTIVE	intrusion
	b) predial	FLASH	ACTIVE	busy
3. Temporarily Denied 1		FLASH	FLASH	busy override if override is involved
4. Temporarily Denied 2	a) post-dial only	FLASH	WINK	overflow
	b) predial	FLASH	WINK	busy or ring back
	(then post-dial)	FLASH	WINK	intrusion
5. Denied		FLASH	OFF	overflow
6. Break-In Ignored station is rung	a) post-dial	WINK	OFF	ringback
	b) Predial	WINK	OFF	ringback
7. Invalid	post-dial or predial	OFF	OFF	overflow

8. Break-In with Secrecy	after post-dial or predial, active BKI key is pressed	ACTIVE or FLASH	FLASH	no tone
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Table 10 is a summary of possible Break-In situations and actions.

Table 10
Summary of possible Break-In situations and actions

Condition of called DN	Action
1. Established call, Call Waiting or Camp-on allowed, Multiple Appearance DN. Lockout (if not denied).	Break-In allowed, connection established. Connection is made.
2. Attendant dialing on SRC, internal call on SRC, CWT or Camp-on not available, desired party in conference, Call Forward active on set.	Connection is made for the attendant only.
3. Tones, ringing, dialing, blocking, Override, Camp-on, Hold, talking to another attendant, Call Transfer, WTD on undesired party.	Release DEST, wait and repeat.
4. Make Set Busy, Do not disturb.	Predialing operation possible.
5. Warning tone denied on desired party, maintenance busy.	Break-In impossible.
6. Station is idle.	Station is rung, station not affected.
7. Invalid numbers.	Break-In impossible.
8. The previous status was "Allowed" or "Consultation Only". SRC or DEST indicator was active ('Allowed') or flashing ('Consultation Only').	Undesired party is excluded and the attendant is talking to the wanted party.

Introduced in X11 Release:	All
Networking:	No

Attendant Busy Verify

Attendant Busy Verify allows the attendant to establish a connection with any apparently busy DN to verify that the DN is actually busy and in working order. This feature can also be used to connect with a busy station if an emergency situation requires call interruption by the attendant.

When Busy Verify is active, a 256 millisecond burst of interrupted tone is sent every six seconds to indicate the presence of the attendant. The attendant can Busy Verify only those stations with Warning Tone Allowed Class of Service.

When a station is involved in a conference, the attendant can verify whether the station is busy even if it has Warning Tone Denied Class of Service.

An attendant can also use either the Release Source or Release Destination key on the console to release one of the parties involved in a Busy Verify conference.

Operating parameters

The system must be equipped with a conference loop.

If equipped, the Busy Verify key must be assigned to key 0 of the console flexible feature strip.

Feature interactions

Attendant Break-In

With X11 Release 20 or later, the attendant can use the Break-In key instead of Busy Verify to break in to an established call. Attendant Break-In simplifies this process.

Automatic Redial

Attendant Break-In and Attendant Busy Verify are not permitted on a Meridian 1 proprietary set that is used for an Automatic Redial (ARDL) call. These restrictions avoid creating a conference when the tone detector is involved in the call.

Call Forward All Calls

If the DN is call forwarded to the Attendant Console, the attendant will receive a click followed by silence.

Call Forward Busy Hunting

Call Forward Busy and Hunting do not affect Busy Verify.

Call Forward/Hunt Override Via Flexible Feature Code

Using Call Forward/Hunt Override Via FFC after activation of Barge-in, Busy Verify or Break-in is not allowed. Attempts will be canceled and overflow tone will be returned.

Using post-dial Break-in after dialing the Call Forward/Hunt Override FFC is possible after encountering a busy set, if Break-in is enabled.

Call Forward, Internal Calls

When the attendant is using this feature to call a telephone that is Internal CFW active, the call will not receive Internal CFW treatment.

Charge Account and Calling Party Number

A charge account number cannot be entered when Attendant Barge-In or Attendant Busy Verify is active. Barge-In cannot be used to connect to a trunk after an account number has been entered.

China – Attendant Monitor

When China (CHINA) package 285 is equipped, the normal operation of Busy Verify changes. The repeatable tone is now configurable with the (TOA)/TOD option.

If an attendant is monitoring a DN, a second attendant defined for the same customer will be blocked from Busy Verifying any party involved in the monitored call.

If an attendant is Busy Verifying a DN, a second attendant defined for the same customer will be blocked from monitoring any party involved in the monitored call.

Conference

Conference Control cannot be activated if an attendant has used Busy Verify during a conference that involves a trunk.

Direct Inward System Access

Attendant Busy Verify applies only to DNs within the system. If an attendant tries to use the feature to enter a Direct Inward System Access DN, overflow tone is returned.

Group Hunt

An attendant is not allowed to busy-verify when dialing a Pilot DN directly.

Intercept Computer Dial from Directory - Pre-dial Operations

It is possible for an attendant to override call forward on a set in the following manner:

- Press an idle loop key, and press the Break-in key on the Attendant Console.

Dial an extension DN from the Intercept Computer.

Music, Enhanced

When the attendant attempts to Busy Verify a telephone receiving Music, the Music is removed. When the attendant releases, Music is returned.

On Hold on Loudspeaker

It will not be possible to Busy Verify into a call on loudspeaker as it is effectively on hold at the set.

Periodic Camp-on Tone

The Periodic Camp-On Tone has precedence over Busy Verify intrusion tone.

Uninterrupted Line Connections

Attendant Busy Verify cannot be applied to stations with a Warning Tone Denied Class of Service.

Feature packaging

Attendant Busy Verify is included in base X11 system software.

Feature implementation

LD 12 – Add/change a Busy Verify key on Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	ATT 1250 2250	Console type.
TN	I s c u c u	Terminal Number. For Option 11C.
KEY	0 BVR	Add a Busy Verify key.

LD 10 – Allow/deny Warning Tone Class of Service for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	I s c u c u	Terminal Number. For Option 11C.
CLS	(WTA) WTD	Allow or deny warning tone.

LD 11 – Allow/deny Warning Tone Class of Service for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(WTA) WTD	Allow or deny warning tone.

LD 14 – Allow/deny Warning Tone Class of Service for trunks.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	COT DID FEX RAN TIE WAT	Trunk type.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(WTA) WTD	Allow or deny warning tone.

Feature operation

To verify a busy DN, follow these steps:

- 1 Select an idle loop key.
- 2 Press **Busy Verify**.

3 Dial the DN of the station.

If the DN is idle, press **Signal Source** to ring the station.

Possible results are:

- silence (DN is idle and working)
- conversation (DN is busy and working), or
- fast busy (station is disabled or has Warning Tone Denied Class of Service).

4 Press the **Rls** key to disconnect from the call.

An enhancement to the Busy Verify feature offers the following functionality. Party A is on a call with Party B. The attendant:

- 1** Selects an idle loop key.
- 2** Presses **Busy Verify**.
- 3** Dials Party A and creates a Busy Verify conference between Party A, Party B, and the attendant.

The use of the **Rls DEST** and **Rls SOURCE** keys are allowed at this point as follows:

- The attendant can press the **Rls DEST** key to release Party A from the Busy Verify conference or
- The attendant can press the **Rls SOURCE** key to release Party B from the Busy Verify conference.

Attendant Call Selection

All calls to the attendant, with the exception of slow-answer recalls, are automatically queued in order of arrival. The attendant can answer a call in two ways:

- Calls can be answered in the order received, regardless of call type, using the Loop key (LPK).
- A particular call type can be answered before other calls in the queue by manually selecting the appropriate Incoming Call Indicator (ICI) key.

The first call presented to an idle console is indicated by the appropriate ICI lamp. All subsequent calls are indicated by the Calls Waiting lamp only until the first call is released. All appropriate ICI lamps will then light, and an attendant may select a specific incoming call type by pressing the appropriate ICI key.

If a customer has multiple consoles, the first call in queue is presented to the first idle console.

Operating parameters

The maximum number of ICI lamps per Attendant Console is 20. All consoles associated with a customer have the same ICI assignments.

Feature interactions

Attendant Incoming Call Indicators

The ICI feature is used with the Attendant Call Selection feature to recognize, answer, and process incoming calls.

Feature packaging

Attendant Call Selection is included in base X11 system software.

Feature implementation

No change to existing configuration is required for the Attendant Call Selection feature.

Note: To implement ICI, see the Attendant Incoming Call Indicators feature description contained within this document.

Feature operation

The attendant can answer a call by

- pressing the Loop key to answer calls in the order received or
- pressing the appropriate ICI key to answer a call by call type.

Attendant Calls Waiting Indication

Call Waiting on the console gives the attendant an indication of the number of calls in the console queue and the length of time they have been waiting to be answered. Each console is equipped with a Call Waiting indicator. The indicator is dark when no calls are waiting in the queue. The indicator is steadily lit when one or more calls are waiting. The indicator flashes when the number of waiting calls exceeds the customer defined threshold, or when a call has been waiting longer than the specified number of seconds.

The two thresholds that control the lamp states are defined in the Customer Data Block. The time delay threshold can be specified from 0 to 511 seconds in multiples of two seconds. The number of calls threshold can be specified from 0 to 255. If zero is specified, this aspect of the Call Waiting feature is not operational.

An option is also provided to supply a two-second buzz to notify the attendant when the first call enters the queue or when the Call Waiting lamp changes from steadily lit to flashing, or both.

If the threshold has been exceeded and the Call Waiting indicator is flashing, it changes to steadily lit when the threshold is no longer exceeded by either number of calls or time delay.

Operating parameters

If neither the time delay or number of calls thresholds are defined, the Call Waiting lamp state will not change from steadily lit to flashing.

Feature interactions

Call Park on Unsupervised Trunks

If all the attendants are busy and a Call Park Recall occurs, the recall is placed in the calls waiting queue. If the recalled station is busy when the recall occurs, the Disconnect Timer (DCTI) temporarily suspends timing until the recall is presented. After the recall is presented, the Disconnect Timer continues timing for the remainder of the period.

Feature packaging

Attendant Calls Waiting Indication is included in base X11 system software.

Feature implementation

LD 15 – Define Call Waiting thresholds and indications for a customer.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- CWUP	(NO) YES	(Do not) automatically notify Attendant Console (M2250) when the number of calls waiting in queue changes.
- CWCL	(0)-255 (0)-255	Lower and upper bound of the threshold for the number of calls waiting (the default is 0).
- CWTM	(0)-511 (0)-511	Lower and upper bound of the threshold for the time calls are waiting (the default is 0).
- CWBZ	(NO) YES (NO) YES	The two options are: 1. (Disable) enable a buzz to the attendant when either the CWCL or CWTM thresholds are exceeded. 2. (Disable) enable a buzz to the attendant when the first call enters the queue.

LD 12 – Add/change a Display Calls Waiting key on an Attendant Console.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	ATT 1250 2250	Console type.
TN	l s c u c u	Terminal Number. For Option 11C.
KEY	xx DCW	Add a Display Calls Waiting key. xx = 0-9 for QCW or M1250 Attendant Console. xx = 00-19 for M2250 Attendant Console.

Feature operation

If CWUP (notify change in Calls Waiting status) is set to YES in LD 15, the number of calls waiting are displayed on the M2250 console. If CWUP is set to NO, the attendant must press the Display Calls Waiting (DCW) key to display the number of waiting calls.

Attendant Clearing during Night Service

When an Attendant Console is placed in Night Service, the Attendant Clearing during Night Service feature causes all active calls or calls being held on Loop keys to be cleared and given a customer-defined treatment. One of the following treatments can be selected:

- internal calls are disconnected, and external calls are routed to the Night Directory Number (DN)
- all calls are routed to the Night DN
- no clearing

An external call is defined as a call involving at least one external party. The definition of a external party is the same as used for the Multi-Party Operations (MPO) feature; namely, any CO, DID, or TIE trunk (incoming or outgoing), connected to the system is considered an external party, regardless of the way the connection is established.

Operating parameters

Attendant Clearing during Night Service is offered as part of the Multi-Party Operations feature.

Feature interactions

AC15 Recall: Timed Reminder Recall

If Attendant Clearing During Night Service is active and there is a call being extended over an AC15 TIE trunk, when the attendant goes into Night Service, the transfer is completed and the feature is activated.

If there is an AC15 recall presented to the attendant and it goes in Night Service, the recall is put in the attendant queue.

If an AC15 recall has been answered by the attendant and it goes in Night Service, the call is removed from the attendant port and the feature is activated again.

Night Service Enhancements

The Night Service Enhancements features take precedence over Attendant Clearing during Night Service.

Scheduled Access Restriction

Attendant Clearing during Night Service should be equipped with Scheduled Access Restriction (SAR) due to the fact that when Night Service is in effect the only operations that may be performed from Attendant Consoles which are members of a SAR group are:

- release any existing calls, or
- dial the one of the following SAR Flexible Feature Codes:
 - Scheduled Access Disable (SADS)
 - Scheduled Access Enable (SAEN)
 - Scheduled Access Lock (SALK), or
 - Scheduled Access Unlock (SAUN).

Feature packaging

The Attendant Clearing during Night Service feature is packaged as part of the Multi-Party Operations (MPO) package 141.

Feature implementation

LD 15 – This overlay is modified to output the Attendant Clearing during Night Service (ACNS) prompt as part of the MPO group of prompts. The ACNS prompt will only appear if the MPO package is equipped and the response to both MPOP and FMOP is YES. The ACNS prompt will accept a response of either NO, ALL, EXT or a carriage return (<CR>).

Prompt	Response	Description
REQ	NEW CHG	Add new data. Modify existing data.
TYPE	CDB MPO	Customer Data Block. Release 21 gate opener.
...		
MPOP	YES	Multi-Party Operations options.
...		
- FMOP	YES	Flexible Mis-operation Parameters.
-- RCY2	...	
-- ACNS	(NO) ALL EXT <CR>	Attendant Clearing during Night Service. Attendant will not be cleared (the default). All calls will be routed to the Night DN. External calls will be routed to the Night DN, while internal calls will be disconnected. Previously defined value not changed, or set to default if response to REQ was NEW.

Feature operation

A customer is put into Night Service manually, by pressing the NITE key on the Attendant Console or having all Attendant Consoles activate Position Busy, or automatically, by the Scheduled Access Restrictions (SAR) or Attendant Forward No Answer (AFNA) features. When Night Service is activated, all calls or selected calls associated with the attendant will be given treatment according to the feature option defined in the Customer Data Block (LD 15) as part of the Multi-Party Operations (MPO) options.

The following sections describe the treatments given to different call types:

Established Calls

Single Party Call

Both the incoming or outgoing single party call, (i.e., not associated with another call on the attendant) established on the attendant Source (SRC) or Destination (DEST) sides will be routed to the Night DN.

Two Party Call – Ready to Extend

When a call is being extended, a call excluded on the SRC side and an outgoing call established on the DEST side, the call will be extended provided it is allowed as if the Release (RLS) key is pressed. If it is not allowed due to access restriction, the outgoing call on the DEST side will be disconnected and the call on the SRC side will be routed to the Night DN.

Conference Call on Source

If a conference call is established on the attendant SRC, the attendant will be excluded from the conference and disconnected as if the Release Source (RLS SRC) key was pressed.

Conference Call on Destination

If a conference call is established on the attendant DEST (Break-In conference) the attendant will be excluded from the conference and disconnected as if the Release Destination (RLS DEST) key was pressed.

Non-established Calls

Any call in the dialing state on either the SRC or DEST side will be disconnected.

Any call in the ringing state or receiving any tone on either the SRC or DEST side will be dropped or disconnected as if the RLS SRC or DEST key was pressed.

If the call in the ringing, dialing or receiving tone state is on the DEST side, and there is an established call in the EXCLUDE state on the SRC side, the SRC party will be rerouted to the Night DN.

Calls held on the console Loop keys

Any established calls being held on a Loop key will be released and calls extended where possible as described in the Established Calls section, or routed to the Night DN.

When a held call is routed to the Night DN, the held party, which is listening to silence or Music on Hold if available, will receive Ringback Tone. If the Night DN is not idle, the call will be placed in the Call Waiting queue.

Attendant Consoles

Attendant Consoles assist in placing and extending calls into and out of the Meridian 1 system. The operator of an Attendant Console is known as the attendant. The consoles provide the attendant with many unique features that increase the speed and ease of call processing.

This feature module provides an overview of the Attendant Consoles and a description of the basic software capabilities and associated service changes. Additional information regarding attendant-related software features may be found in other feature modules in this document.

Table 11 describes the Attendant Consoles that are available with the Meridian 1 system:

Table 11
Meridian 1 Attendant Consoles

Console Type	Description
QCW 2	Basic console with an 8-digit display
QCW 3	Basic console with a 16-digit display
QCW 4	Basic console with a 16-character alphanumeric display
M1250	Console with a 4-line, 40-character wide alphanumeric Liquid Crystal Display
M2250	Digital console with a 4-line, 40-character wide alphanumeric Liquid Crystal Display

QCW Attendant Consoles

The Attendant Consoles have a digit display at the top of the console and a dial pad below the display. Five vertical keystrips on the console provide access to the functions described in this section.

Vertical keystrip 1

This keystrip at the far left on the console is utilized for Trunk Group Busy (TGB) keys. The attendant may deny stations access to a trunk route by pressing the associated Trunk Group Busy key. Additionally, the lamps associated with Trunk Group Busy keys provide the visual indication of the status of the trunks within the route (See Table 12).

Table 12

Visual Indication of the status of the trunks within the route

Visual Indication	Status of the trunks within the route
Dark	Some of the trunks in the route are idle.
Flashing	All of the trunks in the route are busy.
Steadily lit	The attendant has taken control of the route.

The basic Attendant Console has 10 Trunk Group Busy keys. If an add-on module is installed, there are 16 Trunk Group Busy keys.

Vertical keystrip 2

This keystrip is used for Incoming Call Indicator keys. The Incoming Call Indicators (ICIs) identify the type of calls in the queue and the status of each particular call type. Three lamp states are associated with each Incoming Call Indicator key (See Table 13).

Table 13**Key lamp states associated with each Incoming Call Indicator key**

Lamp state	Status of call type
Dark	No calls of this type are waiting.
Flashing	One call of this type is waiting in queue.
Steadily lit	Two or more calls of this type are queued, or one call has been waiting longer than 20 seconds.

To select a specific type of incoming call, the Incoming Call Indicator key associated with a steadily lit or flashing LED is pressed. The call is removed from the queue and presented to an idle loop key on the Attendant Console.

The basic Attendant Console has 10 Incoming Call Indicator keys. If an add-on module is equipped, the console may have 20 Incoming Call Indicator keys. An Incoming Call Indicator key may be assigned to one or more of the call types listed in [Table 14](#).

Table 14
Incoming Call Indicator key assignments

Key	Mnemonic	Meaning
00-19	CAX	Station Category Number (x = 1-7)
00-19	CFB	Call Forward Busy
00-19	CFN	Call Forward No Answer
00-19	DF0	Dial 0 fully restricted
00-19	DL0	Dial 0
00-19	IAT	Inter-attendant call
00-19	INT	Intercept
00-19	LCT	Lockout
00-19	LD0	Listed DN 0
00-19	LD1	Listed DN 1
00-19	LD2	Listed DN 2
00-19	LD3	Listed DN 3
00-19	MWC	Attendant Message Center
00-19	RLL	Recall
00-19	Rxxx	Route number

Vertical keystrip 3

This keystrip includes the following operating keys:

Release – Allows the attendant to release a call from the console. When the release lamp is lit, it indicates that no incoming calls are being presented to the console.

Loop key/lamps – Allows the attendant to answer and originate calls from the console. The first call in the attendant queue is automatically presented to an idle loop key. Subsequent calls are queued and presented to a loop key when the console becomes idle.

Position Busy – Puts the console into the Position Busy mode. All incoming calls are then redirected to another console in a multiple-console installation or to a night number in a single console installation.

Night Service – Permits incoming calls to be routed to preselected stations when all Attendant Consoles are in the Night mode.

Signal Remote – Provisioned if Centralized Attendant Service (CAS) is in use.

Three lamp indicators, positioned on the upper right-hand side of the keypad, provide the following information:

- **Two Alarm indicators:** When steadily lit, the minor alarm lamp indicates the system has detected a malfunction that does not affect normal call processing. When the major alarm lamp is steadily lit, the system has detected a malfunction that does not permit normal call processing.
- **Call Waiting indicator:** The Call Waiting lamp indicates the number of calls in the attendant queue and the length of time they have been waiting to be answered. The lamp changes from steadily lit to flashing when waiting calls exceed a certain number, or when a call has been waiting longer than a specified time. The number of waiting calls are displayed by pressing the Display Calls Waiting key, if assigned.

Vertical keypad 4

This keypad provides the following fixed feature keys:

Hold – Allows the attendant to hold a call at the console.

Conference – Permits the attendant to set up a conference of up to five conferees, plus the attendant.

Release Destination – Allows the attendant to release the called party from a call held at the console, while holding the calling party.

Release Source – Allows the attendant to release the calling party from a call held at the console, while holding the called party.

Signal Source and Destination – Allows the attendant to recall either party to a call held on the console.

Exclude Destination – Excludes the called party from an established call held at the console, allowing the attendant to speak privately with the calling party.

Exclude Source – Excludes the calling party from an established call held at the console, allowing the attendant to speak privately with the called party.

Volume Control – Allows the attendant to change the volume of alerting signals. Each depression of the key changes the volume of the signal by one step in an eight step range.

Vertical keystrip 5

The optional features listed in [Table 15](#) can be defined on this keystrip.

Table 15
Attendant Console optional feature key assignments (Part 1 of 2)

Key	Mnemonic	Meaning
00	BVR	Busy Verify
01	BIN	Barge-In
00-09	ADL	Autodial
02-09	AWU	Automatic Wake Up
00-09	CHG	Charge Account
00-09	CPN	Calling Party Number
00-09	DCW	Display Calls Waiting
00-09	DDL	Do-Not-Disturb, Individual
00-09	DDT	Display Date
00-09	DPD	Display Destination

Table 15
Attendant Console optional feature key assignments (Part 2 of 2)

Key	Mnemonic	Meaning
00-09	DPS	Display Source
00-09	DTM	Display Time
02-09	EES	End-to-End Signaling
00-09	GND 0-99	Group Do-Not-Disturb
00-09	MCK	Message cancellation
00-09	MDT	Display/Change Date
00-09	MIK	Message indication
00-09	MTM	Display/Change Time
00-09	PAG xxx...x	Paging (xxx...x = route access code)
00-09	PRG	Attendant Administration
00-09	PRK	Call Park
00-09	RDL	Stored Number Redial
00-09	RTC	Routing Control
00-09	SCC xxxx	Speed Call Controller (xxxx = list number)
00-09	SSC xxxx	System Speed Call Controller (xxxx = list number)
00-09	TRC	Malicious Call Trace

M1250 and M2250 Attendant Consoles

The M1250 Attendant Console is available on X11 Release 12 and later software. The M2250 Attendant Console is available on X11 Release 15 and later software. Both consoles have a four line LCD alphanumeric display, each line 40 characters wide, which displays the information presented in Table 16.

Table 16
LCD alphanumeric display information

Line	Display information
1	Displays the time and date.
2	Displays call source information.
3	Displays call destination information.
4	Displays console status information.

Directly below the display screen is a horizontal row of keys that provide the Position Busy, Night Service, Signal Source, and Signal Destination functions.

The M1250 and M2250 consoles have five vertical keystrips that provide the functions described for the QCW consoles. In addition, the consoles have a Shift key on the fixed feature key strip that provides access to an Options menu. This menu allows the setting of the display screen contrast, buzz tone, language, time and date format, and calls waiting options. Additional information on the Options menu can be found in the *M1250/2250 Attendant Console user guide* (P0735210).

The Shift key also allows M1250 consoles to have 20 Incoming Call Indicator keys in the regular mode and 16 Trunk Group Busy keys in the shift mode. The M2250 console can have 20 Incoming Call Indicator keys in the regular mode, and 20 Trunk Group Busy keys and an additional ten flexible feature keys in the shift mode. Add-on modules are not required on the M1250 and M2250 consoles to provide the additional key functions.

Attendant Call Party Name Display (CPND) and the Enhanced Busy Lamp Field/Console Graphics Module capabilities may be equipped with the M1250 and M2250 consoles. Please refer to the feature modules in this document for a complete description of these capabilities.

For additional information on Attendant Consoles and associated hardware, refer to the following Northern Telecom Publications (NTPs):

- *M1250 and M2250 Attendant Consoles description* (553-2201-117)
- *Telephone and attendant console installation* (553-3001-215)
- *Meridian 1 fault clearing* (553-3001-510)

Operating parameters

Refer to the preceding Northern Telecom Publications.

Feature interactions

Refer to the preceding Northern Telecom Publications.

Feature packaging

QCW and M1250 Attendant Console capabilities are included in base X11 system software.

Calling Party Name Display (CPND) package 95, includes Attendant CPND and requires Digit Display (DDSP) package 19.

M2250 Attendant Console (DCON) package 140, requires M2000 Digital Sets (DSET) package 88.

Feature implementation

LD 15 – Attendant Console related prompts and responses.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB LDN	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- LDN0	xxx...x	Listed Directory Number 0.
- LDA0	xx xx... ALL	Attendant Consoles associated with LDN0 (see Note).
- LDN1	xxx...x	Listed Directory Number 1.
- LDA1	xx xx... ALL	Attendant Consoles associated with LDN1 (see Note).
- LDN2	xxx...x	Listed Directory Number 2.
- LDA2	xx xx... ALL	Attendant Consoles associated with LDN2 (see Note).
- LDN3	xxx...x	Listed Directory Number 3.
- LDA3	xx xx... ALL	Attendant Consoles associated with LDN3 (see Note).
TYPE	NIT	Release 21 gate opener.
- NIT1	xxx...x	First Night Service DN.
- TIM1	hh mm	Hour and minute of first Night Service DN.
- NIT2	xxx...x	Second Night Service DN.
- TIM2	hh mm	Hour and minute for second Night Service DN.
- NIT3	xxx...x	Third Night Service DN.
- TIM3	hh mm	Hour and minute for third Night Service DN.
- NIT4	xxx...x	Fourth Night Service DN.
- TIM4	hh mm	Hour and minute for fourth Night Service DN.
TYPE	ATT	Release 21 gate opener.
ATDN	(0) xxx...x	Attendant DN.

- NCOS	(0)-99	Attendant Network Class of Service for all consoles.
TYPE	CAS	Release 21 gate opener.
- CAS	(NO) YES	Change Centralized Attendant Service options.
TYPE	ANI	Release 21 gate opener.
OPT	(IC1) IC2 (XTG) ITG (LOD) LOA (XDP) IDP (XLF) ILF (SYD) SYA	10 or 20 Incoming Call Indicators. Trunk Group Busy keys not equipped/equipped. (Deny) allow Lockout. Digit Display not equipped/equipped. Lamp Field Array not equipped/equipped. (Deny) allow Secrecy.
- ANAT	xxx x	Attendant Billing number.
- ANLD	xxx...x	ANI listed DN.
TYPE	ATT	Release 21 gate opener.
- LFTN	l s c u c u	Terminal Number. For Option 11C.
- LFTN	l s c u c u	Terminal Number. For Option 11C.
- LFFD	xxx...x	First DN of Lamp Field Array.
AATT	xxxx	AIOD attendant identifier.
TYPE	TIM	Release 21 gate opener.
- RTIM	xxxx yyyy zzzz	Recall timers. xxxx = slow answer (0-378). yyyy = Camp-On (0-510). zzzz = Call Waiting (0-510).
- ATIM	(0)-126	Attendant Alternative Answering timer.
ICI	xx yy	Incoming Call Indicator key assignment. xx = key number. yyy = mnemonic (see Table 14). Note: Multiple responses can be entered for the same key. To remove an entry, enter xx NUL, then reenter the desired responses. To add an entry, enter the desired response. It will be added to any already existing response.

- AQTT	1-(30)-255	Attendant queue timing threshold in seconds.
TYPE	ATT	Release 21 gate opener.
- AODN	xxxx...x	Attendant overflow DN.
TYPE	PWD	Release 21 gate opener.
- ATAC	xxxx	Attendant Administration access code.
TYPE	ATT	Release 21 gate opener.
- CWUP	(NO), YES	Call Waiting queue update.
- CWCL	(0)-255 (0)-255	Call Waiting lower and upper thresholds for number of calls in queue.
- CWTM	(0)-511 (0)-511	Call Waiting lower and upper thresholds for time in queue.
- CWBZ	(NO) YES (NO) YES	Buzz when Call Waiting thresholds are exceeded. Buzz when first call enters queue.
- MATT	(NO) YES	Attendant Consoles used as Message Center.
- SPVC	0-63	Attendant number for supervisor console.
TYPE	AWU	Release 21 gate opener.
- AWU	(NO) YES X	Enable Automatic Wake Up (X erases AWU information).
- ATRC	(NO) YES	Attendant Recall after failed AWU attempts.
Note: Enter one or more attendant numbers (1-63). Enter ALL to enable this listed DN on all attendants. Precede the attendant number with X to remove.		

LD 12 – Add an Attendant Console.

Prompt	Response	Description
REQ	NEW	Add a console.
TYPE	ATT 1250 2250 PWR	Attendant Console. M1250 console. M2250 console. Power TN.
TN	l s c u c u	TN of Attendant Console. For Option 11C.
CDEN	(DD) SD	Card density.
SETN	l s c u c u	Second TN (must be on same loop as primary TN of Attendant Console).
ANUM	1-63	Attendant number (1-63).
DLEN	(8) 16	Digit display length (the default is 8). Not prompted if TYPE = 1250 or 2250.
SSU	0-4095	System Speed Call user list number.
ICDR	(ICDD) ICDA	(Deny) allow internal call detail.
CPND	(CNDD) CNDA	(Deny) allow Call Party Name Display. Prompted if TYPE is 1250 or 2250.
DNDI	(DNDD) DNDA	(Deny) allow dialed name display.
EBLF	(BLFD) BLFA	(Deny) allow enhanced busy lamp field. Prompted if TYPE is 1250 or 2250.
AADN	xxx...x	Attendant Alternative Answering DN.
KEY	xx aaa	Key number and mnemonic for feature assignments (see Table 15).

Feature operation

Refer to the appropriate Attendant Console User guide for specific operation procedures.

Attendant Delay

The Attendant Delay feature prevents an attendant from performing the following operations during a customer defined period (0 to 14 seconds inclusive) after a call is presented or recalled to the attendant:

- placing the call on hold
- releasing the call
- parking the call
- extending the call
- performing call splitting
- activating paging, and
- placing a call, if Secrecy or Enhanced Secrecy applies to the presented call or recall.

Operating parameters

If Night Service, Attendant Overflow Position, Position Busy, or Attendant Alternate Answering are active, calls presented or recalled to the attendant are automatically routed to a pre-selected station, and are not subject to Attendant Delay.

Feature interactions

Attendant Console Misoperation

Attendant Delay takes precedence over Attendant Console Misoperation.

Feature packaging

International Supplementary Features (SUPP) package 131.

Feature implementation

LD 15 – Enable Attendant Delay as follows:

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data
TYPE	CDB TIM	Customer Data Block. Release 21 gate opener.
...		
- ADHT	(0)-14	Respond to the ADHT prompt with 0 (the default) to leave this feature disabled, or with a value from 1 to 14 seconds for the Attendant Delay timer to enable the feature. This must be done for each customer to be equipped with the feature.

Feature operation

No specific operating procedures are required to use this feature.

Attendant Display of Speed Call or Autodial

With the Attendant Display of Speed Call or Autodial feature, when an attendant uses the Speed Call or Autodial feature to dial a number automatically, the dialed digits are shown on the console display. The speed-call code and the dialed speed-call number are displayed for a speed-call operation. The dialed autodial number is displayed for autodial operation.

Operating parameters

There are no feature requirements.

Feature interactions

There are no interactions with other features.

Feature packaging

International Supplementary Features (SUPP) package 131.

Feature implementation

No change to existing configuration is required for the Attendant Display of Speed Call or Autodial feature.

Feature operation

If an attendant presses the **Speed Call** key, the speed-call code and dialed speed call number are shown on the Attendant Console display.

If an attendant presses the **Autodial** key, the dialed autodial number is shown on the Attendant Console display.

Attendant Forward No Answer

The Attendant Forward No Answer (AFNA) feature is comprised of two capabilities. The first allows Direct Inward Dial (DID), Direct Outward Dial (DOD), or Central Office (CO) calls, presented to the attendant and not answered within a customer-defined period of time to be forwarded to another attendant, or, if the customer is in Night Service, to the night DN. The second capability allows Direct Inward Dial or Central Office calls, presented to a station that is in Night Service, to be disconnected if not answered within the pre-defined ring cycle, or time period. This second capability is called Night Forward No Answer (NFNA).

Two timers are available: the Attendant Forward No Answer timer (AFNT) and the Attendant Forward No Answer Buzz timer (AFBT), both of which are programmed in LD 15.

If the AFBT timer is programmed, when a call is presented to the attendant, the attendant receives a buzz at maximum volume for the duration of the AFBT timer. If the value set for the AFNT timer is higher than that of the AFBT timer, the attendant receives a buzz at normal volume for the duration between when the two timers expire. The AFNT timer can be set between two and 126 seconds. The AFBT timer cannot be set higher than the AFNT timer.

If the attendant does not accept the call before the AFNT timer expires, the attendant is put in Position Busy and the call is relinked to the top of the queue. If all attendants are put in Position Busy, the call can be forwarded via Attendant Overflow Position (AOP) or Night Service if equipped.

When a call is forwarded from the attendant queue to a busy Attendant Overflow Position, the call remains in the queue. If the AOP is idle, the Attendant Forward No Answer timer is started. If the call is not answered before time-out, the AOP is idled. The call is relinked to the top of the queue. If all attendants are in Position Busy, Night Service is activated and the call is transferred to the night DN.

If the night DN is busy, the call is added to the queue, provided the call involves a CO, FEX, WATS, CAS, or CAMA trunk, or was handled by Enhanced Night Service. Other calls, such as TIE or internal calls, are given busy tone.

During Night Service, when a DID or CO trunk call is presented to an idle DN, the Night Forward No Answer (NFNA) ring counter is started. If the call is not answered during the NFNA time cycle, the call is disconnected. Non-DID and non-CO calls ring until the call is answered or the calling party hangs up.

Operating parameters

Attendant Forward No Answer operates in a standalone or networking environment. For networking applications, the transferring and terminating stations can be located on different nodes.

Attendant Forward No Answer does not apply to inter-attendant calls.

NFNA and NFNS do not apply to calls waiting in the ACD queue or the Primary Line Directory Number (PLDN) queue.

When Night Forward No Answer times out on an unanswered trunk, the trunk is locked out until the far-end goes on-hook.

The maximum number of ring cycles for Attendant Forward No Answer on an Attendant Overflow Position is 63.

AFNA timing ceases and the volume of the attendant buzzer is set to the original value in the following cases:

- If the attendant answers a call
- If the attendant answers an Automatic Wake-up recall on the AWU key

- If an attendant-extended call is answered on a set during a slow answer recall to the attendant, and
- If a call waiting call is answered at a set while the attendant is ringing.

If a set or trunk disconnects while the attendant is being rung, and the AFNA timing cannot continue on the source or destination side, the volume of the attendant buzzer is set to its original value.

The NFNS timing starts when a DID/DOD/CO call is recalled to the night station, as part of the Recall to Night Station treatment, requeued to the night station as part of the Requeueing of Attendant Presented Calls treatment, or rerouted to the night station as part of the Attendant Clearing During Night Service treatment.

If both the Disconnect Timer (DCTI) of the Periodic Clearing feature and NFNA or NFNS are defined, the first one which expires will disconnect a DID or CO call.

Feature interactions

AC15 Recall: Timed Reminder Recall

If the Attendant Forward No Answer feature is activated and the attendant fails to answer, the attendant is forced into Busy Position and the call goes to the first idle attendant or is put into the attendant queue. If the conditions are also satisfied to put the customer in Night Service and the original call is an external call, the AC15 recall is directed to the Night DN.

Attendant Recall

If an attendant recall is affected through the Attendant Recall key on a Meridian 1 proprietary telephone, or through a switchhook flash on an analog (500/2500 type) telephone, the destination side on the console is not dropped before the call is routed to the night DN.

Camp-On to a Set in Ringback or Dialing

Camp-on recall takes precedence over the Attendant Forward No Answer recall. However, if during the recall the customer goes into Night Service and the recall is not answered by the night DN, the call is disconnected according to the Attendant No Answer feature processing.

DPNSS1 Diversion

If an incoming call is handled for Network Attendant Services routing towards DPNSS1, no diversion signaling is sent back to the calling party.

Multi-party Operations - Recovery of Mis-operation during Call Transfer

Multi-Party Operations – Recovery of Mis-operation During Call Transfer takes precedence over NFNA and NFNS for DID/DOD/CO calls.

When a DID/DOD/CO call is transferred from one station to another station on the same node, Ring Again No Answer has priority over NFNA and NFNS.

Night Forward No Answer

Call Forward No Answer has priority over Night Forward No Answer and AFNA on the Attendant Overflow Position.

Night Service Enhancements

Any call which has been presented to the Attendant Overflow Position cannot be removed from the set and requeued by pressing by Make Set Busy (MSB) key. The call will only be removed if the Attendant Forward No Answer feature is active, and the Attendant Forward No Answer Timer has timed out. In this case, the call is requeued and the Attendant Overflow Position is idled.

Position Busy with Call on Hold

If an attendant with a call on hold does not answer an Attendant Forward No Answer call within a customer-defined time, the console is not placed in Position Busy.

Recall to Same Attendant

If the attendant does not answer a call and the Attendant Forward No Answer feature is equipped, the console is forced into the Position Busy state and the call routed to the first available idle attendant.

Switchhook Flash

If a switchhook flash is performed on an analog (500/2500 type) telephone, the AFNA timing stops to allow for a valid disconnection. If a valid disconnection is not affected, the AFNA timing cycle begins again.

Feature packaging

Attendant Forward No Answer (AFNA) is package 134; however, this package is mutually exclusive with Attendant Alternate Answering (AAA) package 174.

Within a networking environment, Network Attendant Service (NAS) package 159 is required.

Feature implementation

LD 15 – Modify data for each customer member to be configured.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
...		
- OPT	(DNCA) DNCS	If DNCA is entered, all DID/CO or DOD calls are disconnected after the number of ring cycles defined by the response to the NFNA prompt while the system is in Night Service. If DNCS is entered, outgoing CO/DOD calls or incoming CO/DID calls in the answered state, and waiting on a set are disconnected after the number of seconds defined in response to the NFNS prompt expires.
...		
- AFNT	(0)-2-126	Attendant Forward No Answer Timer. The number of seconds in two-second intervals that the call is presented to the attendant before Attendant Forward No Answer is attempted. Odd entries are rounded down to the next valid entry. If 0 is entered, the call is not forwarded.

- AFBT	(0)-2-x	Attendant Forward Buzz Tone, where: x = the value defined for AFNT. The number of seconds in two-second intervals that the attendant is buzzed at full volume before the Attendant Forward No Answer timer is reached. Odd entries are rounded down to the next valid entry.
TYPE	TIM	Release 21 gate opener.
...		
- NFNA	(0)-63	Night Forward No Answer ring cycles (prompted if OPT = DNCA). The number of times a DID/DOD and CO trunk call will ring a set before being disconnected during Night Service. A default value of 0 causes the call not to be disconnected.
- NFNS	(0)-504	Night Forward No Answer in seconds (prompted if OPT = DNCS). If a value is entered for this prompt, all outgoing CO/DOD trunk calls in a waiting state, and all incoming CO/DID calls in the answered state will be disconnected after the time in seconds expires as entered in response to this prompt. The entered value must be a multiple of eight. A default value of 0 causes the call not to be disconnected.

Feature operation

No specific operating procedures are required to use this feature.

Attendant Incoming Call Indicators

Attendant Consoles can be equipped with up to 20 Incoming Call Indicator (ICI) key/lamp pairs to identify the type of calls being presented and the call status for each particular call type. The customer can specify which incoming call types are to be assigned a separate ICI key. Possible call types include, but are not limited to, the following:

- Trunk calls (such as FX, WATS, and TIE)
- Listed Directory Number (LDN) calls
- Dial zero calls
- Fully restricted dial zero calls
- Automatic Timed Reminder recalls
- Attendant Interpositional calls
- Attendant Intercept calls
- Call Forward Busy calls, and
- Call Forward No Answer calls.

Three lamp states are associated with each Incoming Call Indicator key (See Table 17).

Table 17

Key lamp states associated with each Incoming Call Indicator key

Lamp state	Status of call type
Dark	No calls of this type are waiting.
Flashing	One call of this type is waiting in queue.
Steadily lit	Two or more calls of this type are queued, or one call has been waiting longer than 20 seconds.

Operating parameters

The ICI feature applies to Attendant Consoles only.

The number of ICI keys to be assigned (10 or 20) is defined in the Customer Data block. The default is ten.

No more than 20 ICI key/lamp pairs can be assigned to an Attendant Console. The assignment of call types to ICI key/lamp pairs is flexible. All Attendant Consoles in the customer group will have the same ICI key assignments.

Feature interactions

Attendant Call Selection

Call Waiting

The ICI feature is used with the Attendant Call Selection and Call Waiting features to recognize, answer, and process incoming calls.

ISDN Semi Permanent Connections for Australia

Calls using an ISPC link are always presented as calls over TIE trunks.

Feature packaging

Attendant Incoming Call Indicators is included in base X11 system software.

Feature implementation

LD 15 – Assign ICI keys for Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- OPT	(IC1) IC2	10 or 20 Incoming Call Indicators.
- ICI	0-19 CAx	Station category number. x = category number 1 through 7.
	0-19 CFB	Call Forward Busy.
	0-19 CFN	Call Forward No Answer.
	0-19 DF0	Dial 0 fully restricted.
	0-19 DL0	Dial 0 (attendant).
	0-19 IAT	Inter-attendant call.
	0-19 INT	Call intercept.
	0-19 LCT	Line Lockout Intercept.
	0-19 LD0-3	Listed Directory Number (0 through 3).
	0-19 MWC	Attendant Message Center.
	0-19 RLL	Recall.
	0-19 xxx	Route number.

Feature operation

No specific operating procedures are required to use this feature.

Introduced in X11 Release:	All
Networking:	No

Attendant Interpositional Transfer

Attendant Interpositional Transfer enables an attendant to call or transfer a call to another attendant in a multiple-console group, even when the destination Attendant Console is busy.

When transferring a call to another attendant whose console is idle, the interpositional call is presented immediately. If the called attendant is busy, the calling attendant hears a busy tone. The attendant then presses the Release key and the transferred call will be the next call presented to the called Attendant Console.

Operating parameters

In systems using software prior to X11 Release 8, a call cannot be transferred if the called Attendant Console is in Position Busy, has activated Night Service, or if network blocking occurs. In these cases, the calling attendant receives a busy tone. With software Release 8 and later, the call can be transferred to an Attendant Console in the Position Busy state; however, the called console does not receive any audible signal. A Call Waiting indication appears on the console display.

Feature interactions

Digital Private Network Signaling System (DPNSS1)/Digital Access Signaling System (DASS2) Uniform Dialing Plan (UDP) Interworking

The Attendant Overflow Position feature is supported in a UDP DPNSS1 network. An attendant can call or transfer a call to another attendant in a multiple-console group, even when the destination Attendant Console is busy.

Network Attendant Service

An attendant is not able to call a specific attendant on another node by dialing the attendant DN followed by the attendant number. The attendant dials the NARS or CDP or LDN number the same as a telephone dials to reach the attendants at another node.

Night Service Enhancements

The queueing of interpositional calls is not allowed. Night Service enhancements do not apply to interpositional calls, which remain on the console until answered.

Feature packaging

Attendant Interpositional Transfer is included in base X11 system software.

Feature implementation

LD 15 – Add/change an Interpositional Call Incoming Call Indicator (ICI) key on Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- ICI	0-19 IAT	Add an Inter-attendant Call ICI to all consoles.

Feature operation

To transfer a call to a busy attendant (Attendant Console), follow this step:

- The Attendant Console you have dialed is busy. Press **Rls**. Your call will be the next call presented to the busy attendant.

To transfer a call to an Attendant Console in Position Busy mode, follow this step:

- Dial the Interpositional access code (0) and the desired attendant position number. You receive a busy tone. Press **Rls**.

To answer a call transferred to an Attendant Console in Position Busy mode, follow these steps:

- 1 The Call Waiting indicator lights; there are no audible tones. Press the **Position Busy** key to take the console out of Position Busy mode.
- 2 The call is presented to the Loop key and you receive an audible tone. Press the **Loop** key.

Introduced in X11 Release:	All
Networking:	No

Attendant Lockout

Attendant Lockout restricts the attendant from entering an established connection completed through and held on the console. Attendant Lockout does not come into effect until the call has been answered.

The attendant can re-enter the call if the source party is a station telephone. Attendant Lockout occurs only if the source party is an external number (trunk), and the destination party is a telephone.

Operating parameters

Busy Verify and Barge-In allow the attendant to override the Attendant Lockout feature.

Feature interactions

Attendant Recall

If one of the stations activates Attendant Recall, the attendant is allowed to re-enter the connection.

Feature packaging

Attendant Lockout is included in base X11 system software.

Feature implementation

LD 15 – Allow/deny Lockout for Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- OPT	(LOD) LOA	(Deny) allow attendant lockout.

Feature operation

No specific operating procedures are required to use this feature.

Introduced in X11 Release:	All
Networking:	No

Attendant Overflow Position

Attendant Overflow Position (AOP) allows certain types of calls to be automatically rerouted to a specified idle Directory Number (AOP DN) when calls waiting to be answered have exceeded a defined threshold, or an attendant is in the Position Busy state, but the system is not in Night Service.

When a call that can be rerouted has been waiting longer than the customer-defined Attendant Queue Timing Threshold (0-255 seconds), it is rerouted to the AOP DN. Calls that can be rerouted to the AOP DN are trunk calls, internal calls and Call Forward Busy, or Call Forward No Answer calls directed to the attendant.

Attendant calls that cannot be rerouted are transfer calls, intercept calls, parked call recalls, automatic or manual recalls, and attendant interposition calls. These calls will not be answered until an attendant becomes available.

When the last Attendant Console is put into Position Busy or disabled, the system does not go into Night Service if an AOP DN is available. In this case, calls that can be rerouted will be forwarded to the AOP DN. Ineligible calls remain unanswered until the system is put in Night Service or one of the consoles deactivates Position Busy.

Operating parameters

An AOP DN can be a single-appearance, multiple-appearance single-call, or multiple-appearance multiple-call DN. If it is a Multiple Appearance DN, a Meridian 1 proprietary telephone can busy out the AOP DN for all appearances.

An analog (500/2500 type) telephone can have an AOP DN. It does not have the ability to busy out the AOP DN and continue to receive calls. If it is a requirement that the analog (500/2500 type) telephone have an AOP DN, the AOP DN must also appear on an Meridian 1 proprietary telephone to create a mix of telephones, which negates privacy.

In order to properly identify and greet attendant overflow calls, it is best to have the AOP DN appear on an Meridian 1 proprietary telephone's secondary DN.

Meridian 1 proprietary telephones specified as Attendant Overflow Positions can prevent calls from being rerouted by the Attendant Overflow feature. To prevent attendant overflow calls, press the Attendant Overflow Position Busy (AOP Busy) key/lamp pair on the telephone. Activating this key will busy out all appearances of the AOP for either Single Call Ringing or Multiple Call Ringing arrangements. Overflow calls will remain in the attendant queue. Normal incoming calls to the AOP telephone will not be affected.

The following requirements apply to the activation/deactivation of the AOP Busy key:

- A telephone with an AOP Busy key must have an appearance of the AOP DN in order for the key to work.
- Any AOP DN that has an AOP Busy key can activate or deactivate the AOP feature. If the AOP Busy key is activated at one appearance of the AOP DN, attendant calls are not rerouted to any appearance of the AOP DN.
- Activation or deactivation of the AOP Busy key does not affect any call already rerouted to the AOP DN.
- If all consoles are in Position Busy and the system is not in Night Service when an AOP Busy key is activated, the system goes into Night Service.
- If the system is in Night Service when the AOP Busy key is deactivated, the system remains in Night Service.

- Activation or deactivation of the AOP Busy key does not affect the Position Busy status of the Attendant Console. If all Attendant Consoles are in Position Busy and the AOP Busy key is activated, the system goes into Night Service.
- The status of the AOP Busy key remains unchanged through a system initialization but is deactivated if a system reload occurs.

The AOP feature package is not allowed on systems equipped with Centralized Attendant Service-Main (CASM) or Centralized Attendant Service-Remote (CASR) packages.

Each customer may have only one AOP DN. The AOP DN cannot be a private line DN, a trunk DN, or a SPRE code.

There are no special ringing cadences or lamp operations to indicate that an incoming call to the AOP DN is an Attendant Overflow Position call. It is recommended that the AOP DN be used only for Attendant Overflow Position calls enabling calls to be answered appropriately.

If the AOP DN is busy, calls remain in the attendant queue and are not rerouted through the Attendant Overflow Position feature until the DN is free to receive the next call.

Calls will not be rerouted to the Attendant Overflow Position DN when

- Calls are on an Integrated Services Digital Network (ISDN) or Electronic Switched Network (ESN) network.
- All appearances of the AOP DN are busy.
- The AOP DN is in the Call Forward All Calls mode.
- The call is an interposition call from an attendant.
- The call has been redirected to the attendant by the Call Transfer or Attendant Recall features.
- The call is an intercept call to the attendants.
- The system is in the Power Fail Transfer mode.
- All appearances of the AOP DN have the Make Set Busy feature activated.

- Any appearance of the AOP DN has activated Attendant Overflow Position Busy (AOP Busy).
- An analog (500/2500 type) telephone appearance of the AOP DN goes idle and a Call Waiting call is queued for the telephone. The Call Waiting call rings the telephone and AOP calls are not rerouted to the telephone.
- The AOP DN goes idle with a Camp-On call queued for the telephone. The Camp-On call rings the telephone and AOP calls are not rerouted to the telephone.
- The rerouting of the call violates the access restrictions or Class of Service restrictions on the AOP DN telephone. For example, if the AOP DN is FR2, an external Public Exchange network call will not be rerouted to the AOP DN because it is prohibited by the telephone access restrictions.
- The system is in Night Service.

Feature interactions

AC15 Recall: Timed Reminder Recall

AC15 recalls are not routed to the Attendant Overflow Position. They are directed to the first idle attendant or put in the attendant queue.

Attendant

The Calls Waiting indicator on the Attendant Console is updated when a call is rerouted to the AOP DN.

Attendant Overflow Position Busy

If the telephone with Attendant Overflow Position (AOP) DN has an Attendant Overflow Position Busy (AOP Busy) key activated, calls will not overflow to any appearance of the AOP DN.

Attendant Recall

An Attendant Overflow Position call answered at an AOP DN may be recalled to the attendant using the Attendant Recall capability (ARC key).

Attendant Timed Recall

Automatic Timed Reminders

After an attendant call has been rerouted using the AOP feature, there is no automatic timed recall to the attendant or any other DN.

Automatic Call Distribution

With X11 Release 16 and later, externally marked trunks will overflow to an Automatic Call Distribution (ACD) DN. The ACD DN may only be an ACD agent configured as a virtual Voice Mail System agent (e.g. Meridian Mail). X11 Release 15 and earlier does not support ACD DN's defined as attendant overflow.

Automatic Wake Up

Automatic Wake Up recalls are not redirected to a customer-defined Attendant Overflow Position DN. Failed wake up calls stay in the attendant queue or ring indefinitely on the console.

Call Forward All Calls

If the telephone assigned an Attendant Overflow DN has activated the Call Forward All Calls feature, overflow calls are not rerouted to the telephone. If an analog (500/2500 type) telephone is forwarded, AOP is canceled.

Call Forward, Internal Calls

If Attendant Overflow redirects an internal call to a telephone that is Internal Call Forward active, the call will remain in the attendant queue, and will not receive Internal CFW treatment.

Call Forward No Answer

A call rerouted through Attendant Overflow Position will Call Forward to the forwarding DN only if it is the Prime DN or a single appearance DN on that telephone.

Call Pickup

An Attendant Overflow Position Call presented to the AOP DN can be picked up by any station belonging to the same Call Pickup Group.

Conference

An Attendant Overflow Position call answered on an AOP DN may be conferenced with another DN.

Departmental Listed Directory Number

Listed Directory Number calls that have been waiting in the queue longer than the specified threshold period will be routed to the Attendant Overflow Position.

Digital Private Network Signaling System (DPNSS1)/Digital Access Signaling System (DASS2) Uniform Dialing Plan (UDP) Interworking

The Attendant Overflow Position feature is supported on a UDP DPNSS1 network. If an incoming DPNSS1 UDP call is queued to the attendant, and if the call is not answered within a predefined period of time, the call can be redirected to the Attendant Overflow DN.

Flexible Attendant Call Waiting Thresholds

The Attendant Overflow Position is not counted as an active attendant.

Line Lockout

A call intercepted to the attendant due to Flexible Line Lockout receives Attendant Overflow Position (AOP) treatment if the feature package is equipped and the AOP Directory Number (DN) is defined.

Make Set Busy

If a telephone that is the only idle AOP DN has MSB activated, calls will not overflow.

If the AOP DN is a multiple appearance DN, the MSB key should be added to all telephones with an AOP DN.

If MSB is activated in a Multiple Call Ringing arrangement, the telephone appears busy. All other appearances of the AOP DN will still receive calls. This allows the user to leave the telephone and prevent callers from overflowing and receiving ringback with no answer.

If the AOP DN is a Multiple Appearance, Single Call arrangement and MSB is activated, the AOP DN of that telephone will flash, but the telephone will not ring (the call can still be answered from that appearance).

Manual Line Service

When Attendant Overflow Position (AOP) is defined, Manual Line Service follows the AOP directions.

Meridian Hospitality Voice Services

Attendant Overflow Position (AOP) allows unanswered calls to the attendant to be forwarded to a customer-defined Directory Number (DN) after a defined time. A call can also be overflowed if all the attendants are in Position Busy State. With AOP equipped in X11 Release 16, overflowed calls can be directed to Meridian Mail. The AOP DN must be defined as an Automatic Call Distribution (ACD) Directory Number (DN), and the ACD DN must have an ACD agent assigned as a virtual VMS agent.

Multiple Appearance Directory Number

A multiple appearance, multiple call AOP DN allows as many overflow calls to be in progress as there are appearances of the DN. A multiple appearance, single call AOP DN allows only one overflow call at a time.

Night Key for Direct Inward Dialing Digit Manipulation

When the last attendant activates the POS BUSY key, the system does not go into Night Service if an Attendant Overflow Position Directory Number (DN) is available.

Night Service

A call rerouted through the Attendant Overflow Position feature is not redirected to the Night DN if the system is subsequently put into Night Service. When all Attendant Consoles are in Position Busy, the system will not go into Night Service until the AOP Busy key is activated.

Deactivating the AOP Busy key after the system has been placed in Night Service does not affect the Night Service feature.

Night Service Enhancements

If a call with a ringing party on the destination side is presented at the last-active Attendant Console, and there is an active Attendant Overflow Position, the ringing destination will be disconnected when the call is requeued. Likewise, if the call is a Call Waiting recall, Call Waiting will be canceled.

Night Service Enhancements/Network Attendant Service (NAS)

Attendant Overflow Position is mutually exclusive with NAS. The routing configuration for NAS will apply during Night Service. External calls and recalls may be queued to a remote Night DN, if defined. Internal calls and internal recalls queued during Day Service will be dropped, if the Night DN has been defined on a remote node.

Recall to Same Attendant

Recalls and inter-attendant calls are not routed to the Attendant Overflow Position.

Ring Again

If Ring Again is activated against the AOP DN, notification is given to the originator when the telephone becomes idle. An AOP call, however, takes precedence over Ring Again notification on the AOP DN when the AOP DN becomes free.

Traffic Measurement

Traffic measurements are provided for the Attendant Overflow feature in Traffic Report TFC005. A count of the number of attendant calls rerouted through the feature is printed.

Feature packaging

Attendant Overflow Position (AOP) package 56 has no feature package dependencies. Attendant Overflow Position and Centralized Attendant Service are, however, mutually exclusive.

Feature implementation

LD 15 – Assign/change an Attendant Overflow Position DN and queue threshold timing.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- AQTT	0-(30)-255	Attendant queue timing threshold (AQTT).
- AODN	xxx...x	DN where calls are to be overflowed when they have been in queue the time specified for AQTT.

LD 11 – Add/change an AOP DN and AOP Busy key.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. Terminal Number for the Option 11.
KEY	xx yyy...y	Attendant Overflow Position DN. xx = key number. yyy...y = DN.
KEY	xx OVB	Attendant Overflow Position Busy key.

LD 10 – Add/change an Attendant Overflow Position DN on a analog (500/2500 type) telephone.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. Terminal Number for the Option 11.
DN	yyy...y	Attendant Overflow Position DN.

Feature operation

Attendant Overflow Position calls will be rerouted to all appearances of the AOP DN as long as the following conditions are met:

- The system is not in Night Service.
- The Attendant Overflow key (any AOP DN appearance) is not activated.
- At least one appearance of the AOP DN is on a telephone that does not have Make Set Busy activated.

To prevent attendant overflow calls from being rerouted to the AOP DN, do any of the following:

- Activate the Attendant Overflow Position Busy key.
- Activate the Make Set Busy key on all telephones with an appearance of the AOP DN.
- Place the system in Night Service.

To prevent attendant overflow calls from being rerouted to a single telephone with an appearance of the AOP DN (but not others):

- Activate Make Set Busy or
- Activate Call Forward All Calls (analog (500/2500 type) telephone).

Introduced in X11 Release:	All
Networking:	No

Attendant Position Busy

If multiple consoles are defined for a customer, an attendant can remove a console from service by pressing the Position Busy key. Incoming calls are then directed to other consoles in the customer group.

Operating parameters

Position Busy applies to Attendant Consoles only.

Feature interactions

Attendant Administration

If a console in the Attendant Administration mode is idle for more than 20 minutes, it automatically reverts to Position Busy. If the Meridian 1 system is initialized or reloaded while the console is in Attendant Administration mode, Attendant Administration is aborted and the console is placed in Position Busy.

Attendant Supervisory Console

Activation of the Position Busy key on a Supervisory console puts the console in the supervisory mode.

Departmental Listed Directory Number

If all Attendant Consoles in an LDN group are in a Position Busy state, calls to that LDN will not be automatically presented to any Attendant Console in the customer group. Other attendants may only answer those LDN calls if the LDN has been assigned to an ICI key.

End-to-End Signaling

Attendant Position Busy works together with Attendant End-to-End Signaling (AEES). However, do not press this feature key while using AEES, or the Dual-tone Multifrequency (DTMF) code signals may be blocked.

Night Service

When all attendants activate the Position Busy key, Night Service is in effect unless the Attendant Overflow Position (AOP) feature is equipped. If AOP is equipped, the Night key must be pressed to invoke Night Service. A call that is rerouted due to AOP is not redirected to the Night DN if the system is subsequently put into Night Service.

Night Service Enhancements

Any call that has been presented to the Attendant Overflow Position cannot be removed from the console and requeued by pressing the Make Set Busy (MSB) key. The call will be removed only if the Attendant Forward No Answer feature is active and the Attendant Forward No Answer Timer has timed out. In this case, the call is requeued and the Attendant Overflow Position is idled.

Recall to Same Attendant

If an Attendant Console is in maintenance or Position Busy when a Recall to Same Attendant call is recalled to it, the recall is presented to the first available idle attendant. If an attendant goes into Position Busy with a Return to Same Attendant call in Call Waiting, the waiting call is presented to the first available attendant.

Series Call

If the attendant activates Position Busy while a Series Call is active, the recall occurs to the next available attendant.

Feature packaging

Attendant Position Busy is included in base X11 system software.

Feature implementation

No change to existing configuration is required for the Attendant Position Busy feature.

Feature operation

In a multi-console environment, press the **Position Busy** key on an Attendant Console to remove it from service.

Introduced in X11 Release:	All
Networking:	Yes

Attendant Recall

Attendant Recall allows a user to call the attendant directly during an established call by pressing a single key. A three-way connection is established among the user, the attendant, and the third party.

To activate this feature, a separate Attendant Recall key/lamp pair must be equipped on Meridian 1 proprietary telephones. A softkey must be programmed on the M3000 Touchphone for this feature.

On single-line telephones, a user can recall the attendant during an established call by flashing the switchhook. Attendant Recall is automatic if a Transfer Denied Class of Service (XFD) is specified for the telephone. If a Transfer Allowed Class of Service (XFA) is specified, the user hears a special dial tone following the switchhook flash, and then dials zero (0) to recall the attendant. After a switchhook flash has been used to recall the attendant, it is not possible to return to a two-party connection before the attendant answers.

Operating parameters

In order for the Overflow Position Busy (OVB) key to work, the telephone must have an AOP DN configured.

Feature interactions

Attendant Alternative Answering

Under Attendant Recall conditions, the initiator of the recall rings the destination side of the console, and the third party becomes the source. The AAA timer is applied to the source party. If the AAA timer expires, the destination is dropped, and the source is forwarded to the AAA DN. If the source party disconnects before the destination party, the AAA timer is restarted on the destination party still buzzing the attendant through the ARC key. The AAA timer is dropped if both parties disconnect.

Attendant Forward No Answer

If an attendant recall is affected through the Attendant Recall key on a Meridian 1 proprietary telephone, or through a switchhook flash on an analog (500/2500 type) telephone, the destination side on the console is not dropped before the call is routed to the night DN.

Attendant Lockout

If one of the stations activates Attendant Recall, the attendant is allowed to reenter the connection.

Attendant Overflow Position

An Attendant Overflow Position call answered at an AOP DN may be recalled to the attendant using the Attendant Recall capability (ARC key).

Attendant Secrecy

Attendant Secrecy does not apply on an attendant recall or when the attendant reenters a call held on a Loop key. The Exclude Source and Destination keys are used in these cases.

Attendant Splitting

After the attendant and the two parties have been connected, the attendant can use the Attendant Splitting feature to communicate separately with either party.

Automatic Redial

When an Automatic Redial (ARDL) call is not accepted by the calling party, the Attendant Recall (ARC) key is ignored.

Call Party Name Display

Attendant Recall using the Attendant Recall key or a switchhook flash results in both source and destination information being displayed. No redirection reason is displayed, however. In this type of recall, the party that pressed the Attendant Recall key or switchhook is the destination party.

Attendant Recall using Call Transfer or Conference displays the recalling party's DN and CPND information on the attendant's source line. No redirection reason is displayed. If the recall is done with the Transfer key the third party's DN and CPND information are displayed on the source line when the transfer is complete.

Directory Number Delayed Ringing

If a dialed set has Directory Number Delayed Ringing (DNDR) defined, and an attendant re-extends a call without releasing it, the DNDR timing is not reset. If the value of the recall timer is less than that of the DNDR timer, the call is recalled to the attendant before audible notification begins.

Direct Inward Dialing Call Forward No Answer Timer

The Direct Inward Dialing Call Forward No Answer Timer does not apply to an answered DID call that is extended to an unanswered station by the attendant – the call is recalled to the attendant via the Attendant Recall feature.

In-Band Automatic Number Identification

If an Automatic Call Distribution Agent is active on an IANI call and activates the Attendant Recall (ARC) key to call the attendant, the agent's display shows the attendant number when the attendant answers the call. The ANI number reappears when the attendant releases.

Incoming Call Indicator Enhancement

If an RDI-intercepted call that is extended by the attendant to the destination party having RDI Class of Service is either transferred back or recalled to the attendant, then the attendant recall ICI lights up and not the RDI-intercept ICI.

ICP Network Screen Activation, Flexible DN, Meridian Mail Interactions

When a call from another node is recalled to the Intercept Computer (ICP) position attendant, it is presented on the ICP terminal.

Multi-Party Operations

Users of analog (500/2500 type) telephones can perform an attendant recall during a two-party connection by performing a switchhook flash and then dialing the attendant DN.

Ring Again on No Answer

A set that is recalling the attendant cannot apply Ring Again on No Answer.

Secrecy Enhancement

The source and destination parties cannot be joined together on the attendants conference bridge if Attendant Break-In with Secrecy is active. This is consistent with the existing Break-In feature.

Slow Answer Recall for Transferred External Trunks

Slow Answer Recall Modification (SLAM) has an interaction after the attendant answers the recall. If SLAM is configured, the target set is disconnected after the attendant answers the recall. If SLAM is not configured, the target set rings until the attendant releases it.

Feature packaging

Attendant Recall is included in base X11 system software.

Feature implementation

LD 15 – Add/change a Recall Incoming Call Indicator (ICI) key on Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- ICI	xx RLL	Add a Recall ICI to all consoles.

LD 10 – Implement Attendant Recall for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. Terminal for the Option 11.
CLS	(XFD), XFA	(Deny) allow call transfer, which allows automatic Attendant Recall.

LD 11 – Add/change an Attendant Recall key for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. Terminal Number for the Option 11.
KEY	xx ARC	Add an Attendant Recall key (the M3000 must use key 33). xx = key number.

Feature operation

To contact an attendant during a call (Meridian 1 proprietary telephone), follow these steps:

- 1 Press **Att Recall**.
- 2 Stay on the line until the attendant answers.
- 3 When you hang up, the other party remains connected to the attendant.

To contact an attendant during a call (analog (500/2500 type) telephone with Transfer Allowed Class of Service), follow these steps:

- 1 Flash the switchhook (you hear a special dial tone).
- 2 Dial zero (0).
- 3 When you hang up, the other party remains connected to the attendant.

To contact an attendant during a call (analog (500/2500 type) telephone with Transfer Denied Class of Service), follow these steps:

- 1 Flash the switchhook (the attendant is automatically dialed).
- 2 When you hang up, the other party remains connected to the attendant.

Attendant Recall with Splitting

The Attendant Recall with Splitting feature provides an enhancement to the operation of the Attendant Console with the following features:

- Attendant Recall, and
- Call Transfer.

This feature allows calls transferred to the attendant via the above features to be presented on the console loop with both the transferring and transferred parties on the console loop, with the transferred party automatically excluded if OPT in LD 15 is set to either SYA (Secrecy Allowed) or EHS (Enhanced Secrecy). Upon answering the call, the attendant then assumes control over both the transferred and transferring parties. The operation will also allow the transferring party to have control over the call as long as the call has not been answered by the attendant (i.e., the transferring party will be able to cancel the call transfer and return to the transferred party).

It is important to note that this enhancement applies to calls transferred to the attendant via Attendant Recall and Call Transfer only. Calls transferred to the attendant via operation of the Conference key on Meridian 1 proprietary telephones, or via the operation of the Interpositional Call Transfers, do not receive splitting.

Operating parameters

This feature applies only to calls which arrive at the attendant by way of Attendant Recall or Call Transfer.

This feature will not function across a network.

This feature requires OPT in LD 15 (Customer Data Block) be set to either SYA or EHS.

Feature interactions

Attendant Secrecy

Secrecy Allowed (SYA)

If Secrecy is allowed at the Attendant Console, a two-party connection will be made only when the attendant answers the call. The attendant can converse privately with either the source or the destination side (Splitting) until the Loop key is pressed and a three-party connection is reestablished.

Secrecy Denied (SYD)

If Secrecy is denied at the Attendant Console, a three-way connection will be established between the transferring party, transferred party, and the attendant when the attendant answers the call.

Enhanced Secrecy (EHS)

Same as SYA except that a warning tone is included as part of all conversations involving the attendant and two or more parties to indicate that privacy has been interrupted.

Automatic Call Distribution (ACD)

A recall from an ACD DN to the attendant console will also activate the Attendant Recall with Splitting feature. The call is treated as if it had come from a normal internal DN instead of an ACD agent. The operation is described in the previous section titled Normal operation.

Automatic Hold

This feature does not have precedence over Attendant Recall (i.e., automatic hold cannot be activated until the attendant answers the recall presented on the console). However, it can be activated even before the attendant answers a call transferred to the console.

Call Detail Recording (CDR) on Multiple Call Transfer

With PPM

Whenever a PPM call is transferred, the pulses accumulated against the current station that is responsible for this segment of the call are added to its terminal meter and a CDR X (a S for the first time) record is printed. When the call is eventually terminated, a CDR E record is printed.

Without PPM

The type and number of CDR records printed will be the same as the case for outgoing PPM call. The only difference is that no accumulated pulses will be included as part of the CDR messages.

Intercept Computer Dial from Directory

If a set transfers a call to the attendant, or a Meridian 1 proprietary telephone presses the Attendant Recall (ARC) key and the transferring party has not yet completed the transfer before the attendant answers, it is not possible to dial from the Intercept Computer (since the transferred party is connected to SRC, and the transferring party is connected to DEST).

Call Party Name Display

For the M1250 and M2250 Attendant Console, M2317, M3000 digital sets, and Meridian Modular sets the appropriate DN and calling party's name will be correctly shown on the digit display when the attendant presses either the Exclude Source or the Exclude Destination key.

Multi-Party Operations

The Multi-Party Operations (MPO) feature introduces a new Class of Service, Three Parties Service Allowed (TSA), for analog (500/2500 type) telephones. It allows certain keys on these sets to be programmed for conference, toggle between sets, and disconnect. However, the toggle function will be disabled if a call is transferred to the attendant because of the Attendant Recall with Splitting feature.

Slow Answer Recall Enhancement

The Call Waiting Recall and Camp-on Waiting Recall enhancements take precedence over Attendant Recall Splitting (ATS), Secrecy (SYA), Enhanced Secrecy (EHS), and Multiple Party Operations.

Transfer Restricted

This feature ignores the use of switchhook flash on analog (500/2500 type) telephones and as a result call transfer, conference, and attendant recall (with or without splitting) will not be allowed on a set basis.

Feature packaging

Attendant Recall with Splitting requires International Supplementary Features (SUPP) package 131.

Feature implementation

No change to existing configuration is required for the Attendant Recall with Splitting feature.

Feature operation

Normal Operation

The following events describe the normal operation whenever a call is transferred to the attendant via the Call Transfer feature at an analog (500/2500 type) telephone, or via the Call Transfer/Attendant Recall feature at a Meridian 1 proprietary telephone, or via the operation of a register recall at an analog (500/2500 type) telephone with Transfer Denied Class of Service.

If an Attendant Console is idle, then the call will be presented to the console as follows:

- The Loop indicator stays off.
- The Recall Incoming Call Identification (ICI) indicator is turned on (with other ICI indicators associated with waiting calls of other type).
- The Source indicator for the loop on which the call is presented is turned on.
- The Destination indicator for the same loop flashes at 120 ipm.
- The console buzzes.
- The Attendant Console digit display indicates the DN (or name if CPND package is enabled) of the transferring party.
- The transferring party receives ringback tone.
- The transferred party is put on hold.

If no Attendant Console is idle when the transferring party dials the attendant access code, then the call is placed in the attendant queue, and the transferring party receives ringback tone. When this call moves to the top of the queue and an Attendant Console becomes idle, then the call will be presented to the console as described in the previous paragraph.

The attendant can then answer this call by pressing the Loop key, or by pressing the Recall ICI key. When the call is answered, the following occurs:

- The Loop indicator is turned on.
- The Recall ICI indicator stays on, and all other ICI indicators are turned off.
- The controlling party is presented at the Attendant Console as a destination, and the Destination indicator stays on steadily.
- The transferred party is presented at the console as a source, and the Source indicator remains on.
- The source (the transferred party) is automatically excluded from the connection, and the Exclude Source indicator is turned on.
- The destination (the transferring party) is connected to the attendant.

The previous two events only occur when the SYA or EHS option is allowed. If SYD is defined in the Customer Data Block, a three party conference will be set up instead.

- If the call is transferred from a Meridian 1 proprietary telephone, the Meridian 1 proprietary telephone's Attendant Recall indicator or the Call Transfer indicator is turned off.

If the call is transferred from a M2317 or M3000 set, then the screen on the corresponding set will go to the established state.

The attendant then assumes control over both the source and the destination as if both parties have been dialed by the attendant.

However, the transferring party can either return to the transferred party or complete the transfer operation any time before the attendant answers the call (i.e., while the call is presented to the console, or placed in the attendant queue).

Canceling Call Transfer

The station user can return to the original party (the transferred party), before the attendant answers the call, as follows:

- The analog (500/2500 type) telephone user: By operating the register recall again, which causes the call to revert back to a two-party call, and the call to the attendant to be canceled.
- The Meridian 1 proprietary telephone user: By pressing the DN key (DN indicator flashes at 120 ipm), which causes the call to revert back to a two-party call, the call to the attendant to be canceled, the DN indicator to stop flashing and stay on steadily, and the Call Transfer indicator (or the attendant Recall indicator) to turn off.

By pressing the Release key or going on-hook, which causes the call to revert back to a two-party call and to be put on hold, the call to the attendant to be canceled, the Call Transfer indicator (or the attendant Recall indicator) to turn off, and the DN indicator to flash at 120 ipm.

- The M2317 set user: By pressing the DN key (DN indicator flashes at 120 ipm), which causes the call to revert back to a two-party call, the call to the attendant to be canceled, the DN indicator to turn on steadily.

By pressing the Release key or going on-hook, which causes the call to revert back to a two-party call and to be put on hold, the call to the attendant to be canceled, (the attendant Recall indicator to turn off), and the DN indicator to flash at 120 ipm.

- The M3000 set user: By pressing the DN key (DN indicator flashes at 120 ipm), which causes the call to revert back to a two-party call, the call to the attendant to be canceled, the DN indicator to turn on steadily.

By pressing the Release key or going on-hook, which causes the call to revert back to a two-party call and to be put on hold, the call to the attendant to be canceled, and the DN indicator to flash at 120 ipm.

Note: Pressing the DN key or operating the recall after the attendant answers the recall will be ignored.

Completing Call Transfer

While waiting for the attendant to answer the recall (ringback tone is received), the station user can complete the call transfer to the attendant as follows:

- The analog (500/2500 type) telephone user: By going on-hook, which causes the analog (500/2500 type) telephone to become idle and the attendant will ring.
- The Meridian 1 proprietary telephone user: By pressing the Call Transfer key (or the attendant Recall key), which causes the DN indicator to turn off, the Call Transfer indicator (or the attendant Recall indicator) to turn off, and the DN to become idle.
- The M2317 set user: By pressing the CONNECT soft key (or the attendant Recall key), which causes the DN indicator to turn off, (the attendant Recall indicator to turn off), and the DN to become idle.
- The M3000 set user: By pressing the JOIN PARTIES function on the touch screen, which causes the DN indicator to turn off and the DN to become idle.

If the transfer operation is completed while the call is presented to the console, then the following will occur:

- The Destination indicator turns off.
- The Source indicator stays on steadily.
- The Attendant Console digit display changes to identify the transferred party.
- The transferred party receives ringback tone.
- The Recall ICI indicator stays on steadily (with other ICI indicators associated with waiting calls of other types).
- The console continues to buzz.

If the transfer operation is completed while the recall is in the attendant queue, then the DN at which the call is transferred becomes idle, the transferred party receives ringback tone, and the call stays in the queue as a recall.

Note: Operation is not allowed after the attendant answers the recall. The transferring party cannot drop from the call in this case until the attendant presses the Release Destination key.

Attendant Secrecy

Attendant Secrecy automatically prevents a voice connection between the source and destination parties of a call being extended by an attendant, until the attendant connects the two parties. This allows the attendant to converse privately with the destination party before completing the connection. Attendant Secrecy is allowed or denied on a customer basis.

Operating parameters

Attendant Secrecy is available on Attendant Consoles only.

Attendant Secrecy operates on trunk calls only.

Attendant Secrecy is not applicable to Integrated Services Access (ISA) trunks.

Feature interactions

AC15 Recall: Timed Reminder Recall

Secrecy is not activated when AC15 recalls are presented to the attendant.

Attendant Recall

Attendant Secrecy does not apply on an attendant recall or when the attendant reenters a call held on a Loop key. The Exclude Source and Destination keys are used in these cases.

Attendant Recall with Splitting

Secrecy Allowed (SYA)

If Secrecy is allowed at the Attendant Console, a two-party connection will be made only when the attendant answers the call. The attendant can converse privately with either the source or the destination side (Splitting) until the Loop key is pressed and a three-party connection is reestablished.

Secrecy Denied (SYD)

If Secrecy is denied at the Attendant Console, a three-way connection will be established between the transferring party, transferred party, and the attendant when the attendant answers the call.

Enhanced Secrecy (EHS)

Same as Secrecy Allowed except that a warning tone is included as part of all conversations involving the attendant and two or more parties to indicate that privacy has been interrupted.

Console Presentation Group Level Services

The Secrecy option specified for a customer applies to all attendants for that customer.

Digital Private Signaling System #1 (DPNSS1) Executive Intrusion

If attendant secrecy is not active when the attendant attempts Executive Intrusion, the source is automatically excluded. If Enhanced Secrecy is equipped, source exclusion includes the removal of the Enhanced Secrecy warning tone when Executive Intrusion is activated.

Music

During secrecy, if there is only one undesired party in the conference, music is not provided to this party when excluded. However, intrusion tone is given to this party.

Feature packaging

Attendant Secrecy is included in base X11 system software.

Feature implementation

LD 15 – Allow/deny Attendant Secrecy for a customer.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- OPT	(SYD) SYA	(Deny) allow Attendant Secrecy.

Feature operation

No specific operating procedures are required to use this feature.

Introduced in X11 Release:	All
Networking:	No

Attendant Splitting

Attendant Splitting allows the attendant to talk privately to the source or destination side of an existing connection on the console. The Exclude Source (EXCL SRC) key allows the attendant to speak privately with the destination (called) party. The Exclude Destination (EXCL DEST) key allows the attendant to speak privately with the source (calling) party.

Operating parameters

This feature is active only while the attendant is involved in the call.

Attendant Splitting applies to Attendant Consoles only.

Feature interactions

Attendant Recall

After the attendant and the two parties have been connected, the attendant can use the Attendant Splitting feature to communicate separately with either party.

Feature packaging

Attendant Splitting is included in base X11 system software.

Feature implementation

No change to existing configuration is required for the Attendant Splitting feature.

Feature operation

To speak privately to the source party:

- 1 Press **EXCL DEST**.
- 2 To connect yourself, the caller, and the called party, press the **lpk** key.
- 3 To end your connection in the call, press **Rls**.

To speak privately to the destination party:

- 1 Press **EXCL SCR**.
- 2 To connect yourself, the caller, and the called party, press the **lpk** key.
- 3 To end your connection in the call, press **Rls**.

Attendant Supervisory Console

The Supervisory Console feature allows one Attendant Console in a customer group to function in a supervisory capacity when put into the Position Busy state. The elements of the Supervisory Console feature allow any of the following functions.

Attendant Status Display

The supervisor, by monitoring the attendant status display, can determine how many attendant positions are in service and able to receive calls.

QCW-type consoles – If 1 to 16 attendants are assigned within a customer group, the supervisory console can be equipped with either a 10-key or 20-key add-on module. The 10- or 20-button add-on module mounted on the right side of the supervisory console provides a visual indication to the supervisor of which Attendant Consoles are in service. One key/lamp pair on the supervisory console add-on module is assigned for each attendant in the customer group including the supervisory attendant. When the supervisory console is operating as a normal attendant, the add-on module key functions are changed to Trunk Group Busy, if ICI 2 is defined in customer data.

M1250 console – If 1 to 16 attendants are assigned within a customer group, the supervisory console can monitor their status using Trunk Group Busy keys. No add-on module is necessary.

M2250 console – If 1 to 20 attendants are assigned within a customer group, the supervisory console can monitor their status using Trunk Group Busy keys. No add-on module is necessary.

When an indicator on the module associated with a particular attendant is on, the attendant is available to service calls. If the indicator is off, the attendant position is in a Position Busy state. Attendant status indicators are only operable when the supervisory console is in a supervisory mode (Position Busy key operated). When the supervisory attendant is in Position Busy, the LED associated with the supervisor fast flashes at 120 ipm.

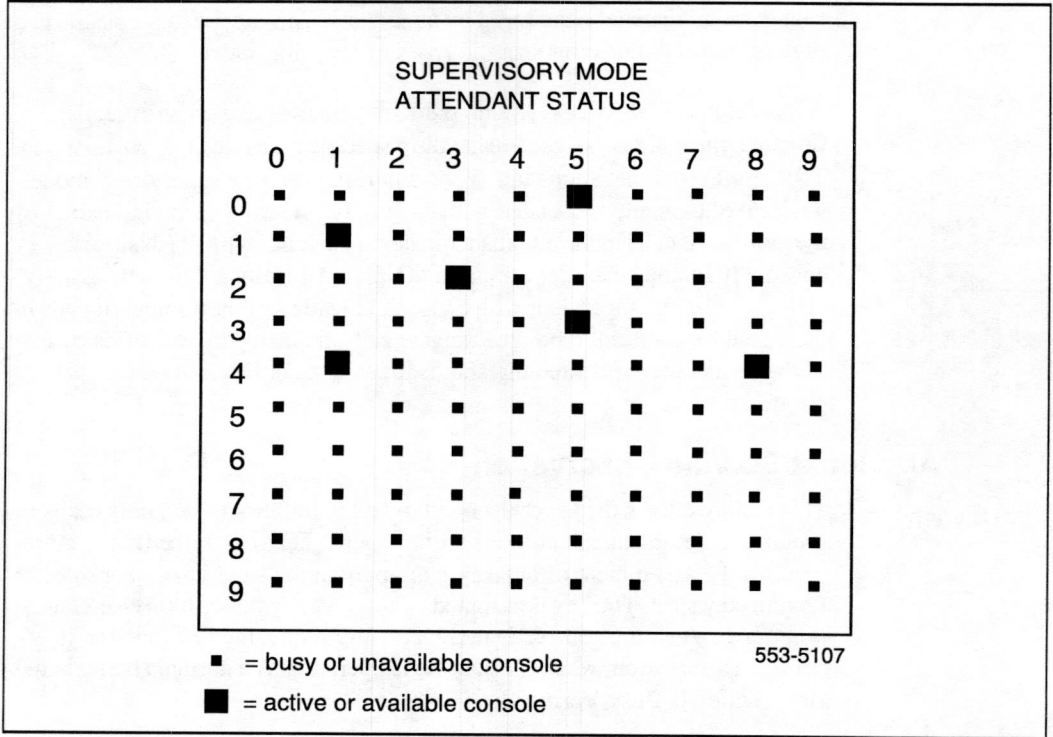
Attendant Status using Lamp Field Array

QCW console – A supervisory console can have up to 49 status indicators. The QMT3 Lamp Field Array (LFA) is used for this function because the Trunk Group Busy keys are limited to 16. The supervisory attendant may use the 16 TGB keys or the LFA, depending on the number of attendants or the preference of the customer.

The LFA associated with the supervisory console displays the attendant status on lamps 101 to 149. The lamp is dark when the attendant is in Position Busy and lit when the attendant is available. A steadily lit lamp in fields 51 to 81 identifies the active supervisory console. The letter S is displayed using lamps 0 to 42 to indicate that this LFA is in the supervisory mode. The LFA displays attendant status whether the console is in Supervisory mode or Attendant mode.

M1250 and M2250 consoles – A supervisory console can have up to 49 status indicators when used in the Standard Busy Lamp Field mode. When using Enhanced Busy Lamp Field mode, a supervisory console can display the status of all Attendant Consoles in the customer group. [Figure 3](#) shows an example of Supervisory monitoring in Enhanced Busy Lamp Field mode on the Busy Lamp Field/Console Graphics Module.

Figure 3
Enhanced Busy Lamp Field Supervisory mode



Visual indication of calls in queue

An attendant call queue holds incoming calls to the Meridian 1 system that cannot be immediately answered by attendants. The supervisory console can monitor the call queue for specific types of incoming calls.

A maximum of 20 (ICI) key/lamp pairs may be assigned on an Attendant Console. Each ICI is assigned to handle a specific type of call (such as station, TIE, or dial 0) to the attendant. When a console is in the supervisory mode, the state of the lamp associated with each ICI provides a visual indication of the number of calls in the attendant queue for each ICI type. Each supervisory console ICI lamp state (dark, flash at 60 ipm, fast flash at 120 ipm, steadily ON) provides the supervisor with a visual indication of the number of calls in the queue for each call type. The ranges (calls in queue) are identified by one of three customer-specified thresholds that are set in service change programs.

Attendant Service Observation

This feature allows the supervisory attendant to monitor (listen only) calls in progress on other attendant loops without being heard. Service Observation requires the assignment of one key/lamp pair on the supervisory console flexible key strip. The key is assigned as Busy Verify through service-change programs. When the console is in Supervisory mode, the key function is Service Observation; when the console is operating as a normal attendant the key function is Busy Verify.

The observed attendant and the connected party or parties are not aware that their conversation is being monitored. The supervisor can release the connection by pressing the Release key. When the attendant is in a Service Observe mode, only the Release key is allowed as a valid input.

Supervisory assistance

An attendant can consult with, or transfer calls to, the supervisor or another attendant using the Interposition call feature. Interposition calls to the supervisor are allowed regardless of the mode of operation (Supervisory or Attendant). The supervisor can use the Interposition call feature to contact any attendant, except those in Position Busy. When the supervisor is conferring with an attendant, subsequent calls to the supervisor receive a busy indication.

If an attendant calls the supervisor who at the time is not in supervisory mode and is handling a call, the supervisory attendant interposition ICI lamp flashes at 60 ipm. As soon as the supervisor is idle, the calling attendant is connected to an idle loop on the supervisory console.

Interposition calls can be made from any attendant in the customer group to any other attendant within the customer group. Only one interposition call can be terminated on a console at a given time.

Supervisor serving as attendant

When the supervisor decides to act as an attendant, the supervisory console is removed from Position Busy. The system presents calls to the supervisory console as if it were a normal Attendant Console. The supervisory console must be idle to change states from attendant to supervisor or supervisor to attendant.

Operating parameters

The supervisory console and all Attendant Consoles (except M2250 Attendant Consoles) in the customer group must be assigned to QPC297 Attendant Console Monitor circuit packs. Their prime TN must be assigned to unit 0 and the secondary TN must be assigned to unit 1. Units 2 and 3 can be used for power; otherwise they must be left unassigned.

Note: M2250 digital Attendant Consoles must be minimum vintage of AD and have the Attendant Supervisory Module (ASM) installed to allow supervision.

The supervisory console must be equipped with one of the following if it is a QCW console:

- QMT1 type 10 key/lamp expansion module (can display status of attendants 1-15)
- QMT2 type 20 key/lamp expansion module (can display status of attendants 1-15)
- QMT3 type Lamp Field Array module (can display status of attendants 1-49)

The supervisory console must have a Digit Display (DDS).

If the supervisory console is a QCW equipped with a QMT3 Lamp Field Array, the status of attendants 50 to 63 cannot be displayed because of the physical limitations of the Standard Busy Lamp Field. An M1250 or M2250 console equipped with a Busy Lamp Field/Console Graphics Module (BLF/CGM) can display the status of all Attendant Consoles (up to the maximum 63) by using the Enhanced Busy Lamp Field mode. The BLF/CGM must be minimum vintage AD to provide this capability.

One supervisory console can be assigned per customer. Only one Attendant Console (1 to 63) can be assigned as a supervisory console.

The customer group must be equipped with more than one attendant.

When using the Attendant Supervisory Module (ASM), the console TN must be configured on unit 0, 4, 8, 16, and so on. The secondary TN (SETN) unit must succeed the Primary TN (1, 5, 9, 17, and so on). The ASM TN is then configured with TYPE = PWR. The PWR TN must succeed the SETN (2, 6, 10, 18, and so on).

Feature interactions

Add-on modules

Add-on modules (key/lamp strips and lamp field arrays used to display attendant status) can be used for other purposes defined by the customer when the console is in Normal mode; however if the Busy Lamp Field is assigned to display attendant status, it cannot be used for other functions during any mode of the Attendant Console.

Attendant Administration

Attendant Administration mode can be entered directly from the supervisory console from Supervisory or Normal mode by pressing the program (PRG) key. The Supervisory mode does not need to be terminated first.

Attendant Position Busy

Activation of the Position Busy key on a Supervisory console puts the console in the supervisory mode.

Controlled Class of Service, Enhanced

When the attendant is in the supervisory mode, Controlled Class of Service programming is prohibited.

Console Presentation Group Level Services

The supervisory console specified for a customer belongs to one Console Presentation Group (CPG). In the Supervisory mode, ICI indicators show only the information for ICIs in that CPG. Thresholds specified in the Customer Data Block apply only to the CPG where that console resides, and do not effect any other CPG.

Departmental Listed Directory Number

The supervisory capabilities extend to all Attendant Consoles defined within the customer group. The Attendant Console serving as supervisor should be a member of every Departmental Listed Directory Number group so that it can serve all groups when operating in the Normal mode.

End-to-End Signaling

The supervisor can operate Attendant End-to-End Signaling (AEES) if there is a call on the active loop key. An attendant in AEES mode can be monitored by the supervisor.

Multi-Tenant Service

The supervisory capabilities extend to all Attendant Consoles defined within the customer group, regardless of tenant partitioning. The Attendant Console serving as supervisor should be a member of every Call Presentation Group so that it can serve all Tenant groups when operating in the Normal mode.

Source Included when Attendant Dials

While the attendant dials the destination, the source receives intrusion tone.

Feature packaging

Supervisory Console (SUPV) package 93 has no feature package dependencies.

Feature implementation

LD 15 – Enable/disable feature for a QCW console with Lamp Field Array or Add-on Module, or for an M1250/2250 console with a Console Graphics Module in the Standard Busy Lamp Field mode.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- OPT	(XTG) ITG (XLF) ILF	Exclude/include Trunk Group Busy Indication. Requires OPT = IC2 for QCW consoles. Exclude/include Lamp Field Array Module.
- LFTN	l s c u c u	Secondary TN of supervisory console (required when Lamp Field Array is equipped).
- SPVC	1-63 0	Attendant number for supervisory console. No supervisory console.
- - SBLF	(NO YES	Supervisory lamp field array is not or is to be used to monitor other Attendant Consoles.
- ITH1	1-255	Visual indication threshold 1 (number of calls in queue \leq ITH1 but $<$ ITH2).
- ITH2	2-255	Visual indication threshold 2 (number of calls in queue \leq ITH2 but $<$ ITH3).
- ITH3	3-255	Visual indication threshold 3 (number of calls in queue \leq ITH3).

LD 15 – Enable/disable feature for an M1250/2250 console with a Console Graphics Module in the Enhanced Busy Lamp Field mode.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- OPT	(XBL) IBL	Exclude/include Busy Lamp Field or Console Graphics Module.
- - SPVC	1-63 0	Attendant number for supervisory console. No supervisory console.
- ITH1	1-255	Visual indication threshold 1 (number of calls in queue \leq ITH1 but $<$ ITH2).
- ITH2	2-255	Visual indication threshold 2 (number of calls in queue \leq ITH2 but $<$ ITH3).
- ITH3	3-255	Visual indication threshold 3 (number of calls in queue \leq ITH3).

LD 12 – Enable/disable supervisory console Silent Observe.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	ATT 1250 2250	Console type.
TN	l s c u c u	Terminal Number. For Option 11C.
KEY	0 BVR	Add Busy Verify key (key 0) for silent observation.

LD 12 – Enable/disable supervisory console for M1250/2250 consoles with Enhanced Busy Lamp Field and Silent Observe.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	1250 2250	Console type.
TN	l s c u c u	Terminal Number. For Option 11C.
EBLF	(BLFD) BLFA	(Deny) allow Enhanced Busy Lamp Field.
KEY	0 BVR	Add Busy Verify key (key 0) for silent observation.



LD 15 – Enable/disable an M1250/2250 console using Trunk Group Busy keys as status keys.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- OPT	(XTG) ITG	Exclude/include Trunk Group Busy Indication.
- SPVC	1-63 0	Attendant number for supervisory console. No supervisory console.
- - SBLF	NO	Supervisory lamp field array is not to be used to monitor other Attendant Consoles.
- ITH1	1-255	Visual indication threshold 1 (number of calls in queue Š ITH1 but < ITH2).
- ITH2	2-255	Visual indication threshold 2 (number of calls in queue Š ITH2 but < ITH3).
- ITH3	3-255	Visual indication threshold 3 (number of calls in queue Š ITH3).

Feature operation

Enable/disable Supervisory mode

To put your console in Supervisory mode, follow these steps:

- 1 Press  when your console is idle (all lpk indicators are off). Your console is now in Position Busy mode, preventing calls from ringing at your console.
- 2 To cancel Supervisory mode, press  again.

Monitor other attendants

In Supervisory mode, you can monitor selected attendant calls without being detected by either the attendant or the caller. To monitor an attendant, follow these steps:

- 1 Once in Position Busy mode, select an idle loop key.
- 2 Press **obs/B. ver.**
- 3 Dial the access code, then the attendant number:
 - If the called attendant is talking to a caller, you hear the conversation but you cannot be heard.
 - If the called console is idle, the S and D indicators go on.
 - If the called console is in Position Busy mode, you hear a fast busy tone, the S and D indicators flash quickly, and the OBS/B. VER indicator goes off.
- 4 Press **RLs** to end the procedure.

Call an attendant

To call an attendant in your group, follow these steps:

- 1 Once in Position Busy mode, select an idle **lpk** key.
- 2 Dial the attendant access code.
- 3 Dial the attendant code.
You hear ringing. The S indicator flashes slowly.
- 4 Press **RLs** to end the call.
The S indicator goes on steadily, and the RLS indicator goes on.

Transfer a call to an attendant

You can transfer a call to an attendant in your group, even if the attendant's console is in Position Busy mode. To transfer a call, follow these steps:

- 1 Dial the attendant access code; then the attendant code.
The EXCL SRC indicator goes on; the caller is automatically placed on hold. The D indicator flashes slowly, the lpk and S indicators are on.
 - If you dial an incorrect attendant code or if the called console is in Night Service mode, the transfer cannot be completed. You hear a fast busy tone and the D indicator remains off. Press **RLs**.
 - If the called console is busy, you hear a busy tone and the D indicator continues to flash slowly. Press **RLs** and your call is placed in the attendant queue.
- 2 Press the **lpk** key when the attendant answers.
The EXCL SRC indicator goes off and the D indicator lights steadily. You, the caller, and the attendant are connected.
- 3 Press **RLs** to end your connection in the call.

Assist an attendant

Even when your console is in Supervisory mode, an attendant can call you for assistance or transfer a call to you by following these steps:

- 1 You receive a call from an attendant while you are in Supervisory mode. You hear a tone. The S indicator flashes and the INTER POS. C. indicator goes on.
- 2 Press the **lpk** key next to the flashing S indicator.
The tone stops; the lpk and S indicators light steadily.
You are connected to the call.

Note: If it is a transferred call, the Call Waiting indicator lights. You must exit Position Busy mode to answer the call.

Attendant Trunk Group Busy Indication

The attendant can control user access to a trunk route by pressing the appropriate Trunk Group Busy key. Station users with a Trunk Group Access Restriction (TGAR) from 0 to 7 accessing the route that has been busied out will be automatically intercepted to the attendant. Station users with a TGAR of 8 to 31 will not be affected and can dial out in the normal manner.

The QCW Attendant Console has up to 10 Trunk Group Busy key/lamp pairs assigned. If an add-on module is equipped on the console, up to 16 Trunk Group Busy key/lamp pairs can be assigned.

The Shift key allows the M1250 Attendant Console to have 16 Trunk Group Busy keys. The M2250 Attendant Console can have up to 20 Trunk Group Busy keys.

Trunk Group Busy Indication is allowed or denied on a customer basis. If allowed, the lamps associated with the Trunk Group Busy keys will provide visual indication of the status of the trunks within the route (See Table 18).

Table 18
Lamp states of Trunk Group Busy keys

Lamp state	Status of trunks
Off	Some of the trunks in the route are idle.
Flashing	All of the trunks in the route are busy.
Steadily lit	The attendant has taken control of the route.

Trunk Routes 0 to 9 are automatically assigned to keys 0 to 9 on the console. If an add-on module is equipped on a QCW console and the IC2 option specified, Trunk Group Busy key/lamp pairs will be automatically assigned to the add-on module. Trunk Routes 0 to 15 are assigned to keys 0 to 7 and 10 to 17.

On the M1250, Trunk Routes 0 to 15 are assigned 0 to 7 and 10 to 17 when the Shift key is activated. On the M2250, Trunk Routes are assigned to keys 0 to 9 and 10 to 19 when the Shift key is activated.

Operating parameters

There are no feature requirements.

Feature interactions

Music

A music route that appears on a Trunk Group Busy key on the Attendant Console cannot be controlled by activation of the Trunk Group Busy key. In addition, the associated lamp will not reflect the status of the music trunks.

Feature packaging

Attendant Trunk Route Busy Indication is included in base X11 system software.

Feature implementation

LD 15 – Allow Trunk Group Busy keys.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- OPT	(IC1) IC2	Allow Trunk Group Busy keys, where: IC1 = 10. IC2 = 16 for M1250, or 20 for M2250.
- OPT	(XTG) ITG	(Exclude) include Trunk Group Busy Indicator keys.

Feature operation

To restrict access to a trunk route (make it busy to users):

- Press the **Trunk Group Busy** key associated with the trunk.
The indicator goes on and remains steady.

To allow access to the trunk route:

- Press the **Trunk Group Busy** key associated with the trunk.
The indicator goes off.

Audible Reminder of Held Calls

Occasionally, a user may forget that a call has been placed on hold. Audible Reminder of Held Calls (ARHC) allows an audible tone to operate as a reminder of a held call. It provides for a ring on analog (500/2500 type) telephones and a tone on Meridian 1 proprietary telephones. The cadence and the duration between cadences are programmed per customer. This ability allows the user to differentiate between the cadence for Audible Reminder of Held Calls (ARHC) and the cadences of other existing features.

The station user will hear a ring or tone, which is repeated every 2 to 120 seconds depending on how this feature is programmed, as a reminder that a call is being held. A single-line telephone user must hang up after putting a call on Permanent Hold in order to start the timer.

Operating parameters

For analog (500/2500 type) telephones, Audible Reminder of Held Calls (ARHC) applies only to permanent hold. When using ARHC on a Meridian 1 proprietary telephone, the station user must not be originating, receiving, or active on another call.

Audible Reminder of Held Calls is supported on Multiple Appearance DNs; however, only the appearance initiating Hold will receive the reminder ring.

This feature does not operate on Attendant Consoles.

Feature interactions

Automatic Line Selection

The Audible Message Waiting signal is given if there is a message waiting on whatever line is selected by Outgoing Line Selection.

Call Hold, Permanent

Permanent Hold must be enabled in LD 10 for the single-line telephone; however, the ARHC timer takes precedence over the Permanent Hold timer.

On Hold on Loudspeaker

This feature works with the On Hold on Loudspeaker (OHOL) feature as for normal calls on hold (i.e., gives a reminder there are calls on hold). Therefore, it is not recommended to use this feature with the OHOL feature.

Tones and Cadences

This feature allows for a definable cadence as a reminder of a held call. With an analog (500/2500 type) telephone, the cadence is determined by the customer's Flexible Tones and Cadence (FTC) table for the holding party. Ringing on an analog (500/2500 type) telephone is not affected by definitions for the Incoming Route option. The cadence for the reminder, and the duration between reminder rings, is always defined within the customer's tone table.

Feature packaging

The Audible Reminder of Held Calls feature is included in base X11 system software.

Feature implementation

LD 15 – Set duration between reminder cadences for Audible Reminder of Held Calls.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB TIM	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- DBRC	2-(60)-120	Duration between reminder cadences for Audible Reminder of Held Call. An odd numbered entry is rounded up to the next even number.

LD 10 – Allow/deny Audible Reminder of Held Calls for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500 2500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(XFD) XFA (ARHD) ARHA	(Deny) allow call transfer. (Deny) allow Audible Reminder of Held Calls.
FTR	PHD	Permanent Hold allowed.

LD 11 – Allow/deny Audible Reminder of Held Calls for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(ARHD) ARHA	(Deny) allow Audible Reminder of Held Calls.

Feature operation

No specific operating procedures are required to use this feature.

Authorization Code Security Enhancement

The Authorization Code Security Enhancement feature enables a user to temporarily override the access restrictions assigned to a station or trunk because of their assigned Network Class of Service (NCOS), Class of Service (COS), and Trunk Group Access Restrictions (TGAR) codes. If a user requires access to system facilities in addition to that allowed on the set, the Authcode feature can be used to provide them.

The Authorization Code (Authcode) Alarm feature alerts the technician when an invalid Authcode is entered by generating an Authcode Alarm. The Alarm indicates to the technician that some unauthorized person may be trying to use an Authcode to illegally access the switch.

The Authcode Alarm is generated upon detection of violation of all Authcode related features (i.e., Basic, Network, and Station Specific Authorization code), except for calls originated by the attendant.

A new class of alarm has been added (Security Administration – SECA) to distinguish security violations from other types of system messages. The message SECA001 will be printed on the TTY indicating that an invalid Authorization Code has been dialed. The following is the format of the SECA001 message:

- Originated station or trunk Terminal Number
- Calling Line Identification (CLID) when the call is originated from an Integrated Services Digital Network (ISDN) trunk, and
- The Authorization Code entered.

Operating parameters

This feature is enabled through the Authcode data block in LD 88.

The Authcode Alarm feature does not apply to calls originated by an attendant.

All existing operating parameters relating to Authorization Code usage apply to this feature.

All existing operating parameters relating to Fault Management apply to this feature.

For security reasons, the SECA001 alarm should not be configured in the Exception Filter table.

Feature interactions

Authorization Code Features

A Security Administration (SECA) message will be printed to the configured Maintenance Terminal (MTC), Filtered Alarm Output (FIL) console and/or the configured History File when an invalid Authcode is detected. The following features relate to Authorization Codes and are thus impacted: Basic Authorization Codes; Network Authorization Codes; Authcode Conditionally Last; Direct Inward System Access with Authorization Code; Station Specific Authcode; Speed Call/Autodial with Authorization Codes; Call Forward with Authorization Codes; Scheduled Access Restrictions with Authorization Codes; Network Queuing/Remote Virtual Queuing with Authorization Codes; Coordinated Dialing Plan with Authorization Codes; and Flexible Feature Code with Authorization Codes.

Charge Account, Forced

If the Authorization Code is used to change the Class of Service of the user, the new Class of Service must be TLD, CTD, or CUN. If an Authorization Code entered after FCA has altered the Class of Service to unrestricted (UNR), the change made by the Authorization Code still comes into effect.

If the originator's Network Class of Service (NCOS) has been changed by an Authorization Code prior to an applicable FCA entry, the new NCOS is replaced by the FCA NCOS, provided the new Facility Restriction Level (FRL) is not lower than the existing FRL. Similarly, if the originator's NCOS has been changed by an FCA entry, the NCOS will be changed again by a valid Authorization Code entry.

China - Flexible Feature Codes - Outgoing Call Barring

Digits dialed after an Authorization Code are checked against the active Outgoing Call Barring level.

Direct Private Network Access with Authorization Code Retry

Only when an Authcode retry fails will a SECA message be printed to the configured MTC, FIL console and/or the configured History File.

Last Number Redial

These codes are not stored in Last Number Redial (LNR). To use these features when calling the number stored in LNR, the code must first be dialed manually. When dial tone is returned, LNR can be used to complete the dialing.

New Flexible Code Restriction

If the Class of Service of the authorization code is Toll Denied (TLD), NFCR is applied. If the Class of Service is Conditionally Unrestricted (CUN) or Conditionally Toll Denied (CTD) and the call is not routed through BARS/NARS, CDP or ANI, NFCR is applied.

Pretranslation

The first digit dialed after a valid Authorization Code is sent to the pretranslator.

Scheduled Access Restrictions

Authorization Codes can be used to override Scheduled Access Restrictions. In addition, Authorization Codes are defined for the specific use of SAR FFCs.

Speed Call, System

If the Basic Authorization Code (BAUT) or Network Authorization Code (NAUT) package is equipped, a Network Class of Service (NCOS) is assigned to the System Speed Call list. The NCOS of the System Speed Call list replaces the NCOS of the Authorization code or Forced Charge Account code if it increases the Facility Restriction Level (FRL) of the code.

Station Specific Authorization Code

Users cannot freely enter authorization codes from telephones that have AUTR or AUTD Class of Service.

Stored Number Redial

The Authorization code is not stored. To store a code, dial the code prior to using Stored Number Redial to dial the call.

Feature packaging

The Authorization Code Security Enhancement feature is part of base X11 system software.

The following software packages are optional, but may be needed depending upon the application:

- Alarm Filtering (ALRM_FILTER) package 243
- Basic Authorization Code (BAUT) package 25
- Basic Alternate Route Selection (BARS) package 57
- Network Alternate Route Selection (NARS) package 58
- Coordinated Dialing Plan (CDP) package 59
- Direct Private Network Access (DPNA) package 250
- Direct Inward System Access (DISA) package 22
- Network Class of Service (NCOS) package 32
- Network Authorization Code (NAUT) package 63
- Station Specific Authcodes (SSAU) package 229
- Recorded Announcement (RAN) package 7
- Scheduled Access Restrictions (SAR) package 162

— System Speed Call (SSC) package 34, or Network Speed Call (NSC) package 39

Feature implementation

LD 88 – Configure the Authcode Alarm for each customer:

Prompt	Response	Description
REQ	NEW CHG	Configure or change.
TYPE	AUB	Authcode Data Block.
CUST	0-99 0-31	Customer number. For Option 11C.
SPWD	xxx	Secure data password.
ALEN	1-14	Number of digits in Authcode.
ACDR	(NO) YES	(Do not) activate CDR for authcodes.
RANR	0-511	RAN route number for Authcode Last prompt.
AUTHCOD_ALARM	(OFF) ON	(Disable) enable Authcode Alarm.

LD 17 – Configure the Alarm Filter.

Prompt	Response	Description
REQ	CHG	Change configuration.
TYPE	ALARM	Change Alarm Filters. Release 21 Gate opener.
- FMT_OUTPUT	ON	Enables formatting for the alarm/exception output. <CR> retains current formatting status.
- AF_STATUS	ON	Alarm and Exception filtering.
- SUPPRESS	0-(5)-127	Alarm occurrence threshold (prior to suppressing). Determines number of times an alarm may occur before it is no longer output. The entry 0 indicates that all alarm occurrences are output (no suppression).

- ESCALATE	0-(2)-127	Alarm occurrence threshold (prior to escalating). Determine number of occurrences of alarm before it is escalated to critical severity over a 24 hour period when the Interval Time has elapsed, the Interval Alarm counter is cleared. Applicable only to Major alarms. The entry 0 occurrence disables alarm escalation.
- A_FILTER	NEW CHG OUT	Add, Change, or Remove an Alarm Filter entry.
- TRIGGER	SECA001	Alarm report consisting of the mnemonic "SECA" and the numerics "001" must be entered for the Authcode security alarm.
- SEVERITY	aaaa	Alarm severity of a particular alarm entry, where: NONE = no rating and default status CRITICAL = System operation is in jeopardy MAJOR = Serious condition, system is operational MINOR = Error condition detected, system operation not affected <CR> = current value retained

Feature operation

No specific operating procedures are required to use this feature.

Autodial

Autodial (ADL) allows users to dial a number by pressing a single key. Meridian 1 proprietary telephones, and Attendant Consoles can be assigned an Autodial key/lamp pair.

The number stored against the Autodial key can be programmed or changed at any time. The maximum number of digits the user is allowed to program can be 4, 8, 12, 16, 20, or 23 digits. Depending on the length allowed, the Autodial number can be another DN or an access code plus further digits. The asterisk (*) can be used as a pause for outpulsing (i.e., for outgoing trunks) when required. When the Autodial key is pressed, the stored number is processed as if it had been dialed manually.

Speed Call/Autodial with Authorization Code, X11 Release 13 and later

This enhancement allows an Authorization Code to be included in a Speed Call entry or an Autodial key. Entries can contain any one of the following combinations:

- SPRE code + digit 6 + authorization code
- SPRE code + digit 6 + authorization code + #, or
- SPRE code + digit 6 + authorization code + # + Electronic Switched Network (ESN) access code and dialed number.

Autodial Flexible Feature Codes

With X11 Release 20 or later, a user may define an Autodial DN that is automatically dialed by the Meridian 1 system in one of two ways:

- In LD 10, while defining the Autodial DN length under the feature (FTR) ADL.
- Using the Autodial Activate (ATDA) FFC, defined in LD 57. This method requires that the length of the Autodial must first be defined in LD 10. The user goes off hook and dials the ATDA FFC. Upon receiving dial tone, the user enters the desired Autodial DN, and then goes on hook.

If, after going off hook, no digits are entered within a customer-defined period of time (defined in LD 15) under ADLD (Autodial Delay), the Autodial DN is automatically dialed.

Note: In LD 10, the user may define a partial DN as an Autodial DN. The user may enter the remaining digits while making a call – the user goes off hook, waits for the dial tone to time out, and then enters the remaining digits of the desired DN. The call is then dialed out.

To deactivate Autodial, the user dials either the Autodial Deactivate (ATDD) FFC (defined in LD 57) or the general Deactivate (DEAF) FFC (also defined in LD 57).

Operating parameters

Autodial must be assigned to a key/lamp pair; as a result, it is not available on analog (500/2500 type) telephones.

An attendant can enter an Authorization Code for other callers provided that the system is equipped with the Network Authorization Code (NAUT) package.

On Attendant Consoles, pressing the Autodial key, then pressing a Speed Call key is not allowed.

Authorization Code Conditionally Last is not supported by the Autodial feature.

An octothorpe (#) is required as a delimiter after the Authorization Code if an ESN access code and dialed number is stored as part of the Autodial key. If the octothorpe is not entered, the user receives fast busy tone. The octothorpe is not stored in the CDR record.

The Autodial feature allows a maximum of 23 digits including the SPRE code, the digit 6, the Authorization Code, the delimiter (#), the ESN access code, and the dialed number.

If the system initializes before the Authorization Code is recorded by CDR, the record will be lost.

An SL-1 digit display telephone can display up to 16 digits. Additional digits cause the digits to scroll off the display.

Because it has a Directory, the M3000 Touchphone does not support the Autodial feature.

On digit display telephones, Authorization Codes cannot be blocked from being displayed.

The Authorization Code is not validated during the storing process. An invalid Authorization Code is detected when the Autodial key is activated.

Network Automatic Route Selection (NARS) and Basic Alternate Route Selection (BARS) does not support the asterisk (*) as a pause when dialing an autodial number.

Feature interactions

AC15 Recall: Transfer from Meridian 1

Autodial and Last Number Redial are supported with the AC15 Recall: Transfer from Meridian 1 on the first transfer, provided that the digits are outpulsed on the trunk after the End-to-End Signaling Delay timer expires. If the far end is not ready, the call will fail because no dial tone detection is performed by the Meridian 1.

Additional transfers are supported if the stored digits are outpulsed without any treatment. For example, a route is seized and the route access code is outpulsed to the far end and interpreted as a Directory Number. No dial tone detector or timer is started, so the digits are outpulsed immediately without checking the state at the far end.

Automatic Redial

Automatic Redial can be activated on a dialed number using the Autodial (ADL) key.

Call Forward and Busy Status

Party A can use the Busy/Forward Status key as an Autodial key to dial party B.

Call Party Name Display

No name information displays during the programming of Autodial numbers.

Calling Party Privacy

An outgoing trunk call initiated by pressing the Autodial key will carry the Privacy Indicator if the Calling Party Privacy (CPP) code followed by the normal dialing sequence is stored against the Autodial key. The CPP code is counted against the maximum number of digits (currently 23) stored against the Autodial key.

A user can also store the CPP code against the Autodial key. An outgoing CPP call can be initiated by pressing the Autodial key, followed by manually dialing the digits.

An outgoing CPP call can also be initiated by dialing the CPP code, followed by pressing the Autodial key against which the normal dialing sequence of digits have been stored.

Charge Account and Calling Party Number

Charge account numbers, including the Charge Account access Special Prefix (SPRE) code, can be stored as Speed Call or Autodial numbers. All current limitations of these features apply, such as a maximum of 23 digits per entry, including the access code. An Autodial number or dialed digits can follow, but not precede, a Speed Call number. The digits generated by an Autodial key during feature operation are accepted as Charge Account digits.

Charge Account, Forced

Forced Charge Account (FCA) numbers (including the Special Prefix [SPRE] code and the Charge Account access code) can be entered in Speed Call lists or stored as Autodial numbers. The digits can also be stored, provided that the account number, regardless of its length, is followed directly by an octothorpe (#).

China – Flexible Feature Codes - Busy Number Redial

Activation of Busy Number Redial (BNR) changes the activation of Autodial. The DN that is autodialed becomes the DN that was busy. When the BNR activation timer expires or the busy DN is redialed when it is idle, the autodial capability is deactivated, but the number saved is not cleared. If Autodial is then activated without entering a DN, the number used is the formerly busy DN.

Activation of Autodial when BNR is active deactivates BNR.

China Number 1 Signaling Enhancements

Delay Digit Outpulsing will be denied when dialing is done by way of Autodial.

Dial Intercom

The Dial Intercom code may be dialed using Autodial or Speed Call.

Direct Private Network Access

If Autodial is programmed with a valid Authcode for Authcode Last component of Direct Private Network Access followed by an octothorpe "#", the existing Authcode Last operation will reject the Authcode as an invalid Authcode. If Authcode Last Retry is defined, the caller will be reprompted for the Authcode.

**Flexible Hot Line
Enhanced Hot Line**

Flexible Hot Line and/or Enhanced Hot Line are mutually exclusive with the Autodial feature.

Intercept Computer Dial from Directory

It is possible to press the Autodial (ADL) key (in which some digits are stored such as an Electronic Switched Network (ESN) code or Flexible Feature Code (FCC)), and then dial a DN from the Intercept Computer. The DN will then be stored on the ADL key.

Last Number Redial

A number dialed using Autodial will become the Last Number Redial number on all telephones, except the M2317 and M3000.

Station Specific Authorization Code

Station Specific Authorization Code (SSAU) feature treats stored autodial numbers as if they were entered at the telephone.

Speed Call Delimiter

An octothorpe (#) is required as a delimiter following an authorization code if an Electronic Switched Network (ESN) and dialed number are stored as part of the speed call or autodial key. If an octothorpe (#) is not entered then the user receives a fast busy tone. If the MSCD = YES, then the end of dial delimiter must be programmed to something other than an octothorpe (#) in LD 15.

Three Wire Analog Trunk – Commonwealth of Independent States (CIS)

Autodial on a E3W trunk will fail for toll calls. The reason is that E3W trunks do not wait for the ANI request from the Public Exchange/Central Office, which is expected to appear after the toll access code is dialed. The Public Exchange then does not accept the call due to failure to receive ANI information.

User Selectable Call Redirection

User Selectable Redirection Allowed (USCR) does not support Autodial; Autodial cannot be used to dial all or part of the digits for USCR programming.

Feature packaging

Optional Features (OPTF) package 1 includes Autodial and has no feature package dependencies.

To implement Autodial with Authorization Code, the following packages are required:

- Charge Account/Authorization Code Base (CAB) package 24, or Basic Authorization Code (BAUT) package 25, or Network Authorization Code (NAUT) package 63.
- Optional Features (OPTF) package 1, or System Speed Call (SSC) package 34, or Network Speed Call (NSC) package 39.

The following packages are required for Autodial FFCs:

- Flexible Feature Codes (FFC) package number 139, and
- Background Terminal Facility (BGD) package 99.

Feature implementation

LD 11 – Assign Autodial key for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
KEY	xx ADL yy zzz...z	xx = assigned key number. yy = the length of the Autodial number (4, 8, 12, 16, 20, or 23 digits; default is 16). zzz...z = the digits to be dialed automatically (optional).

LD 12 – Assign Autodial key for M1250 and M2250 Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	1250 2250	Console type.
TN	l s c u c u	Terminal Number. For Option 11C.
KEY	xx ADL zzz...z	xx = assigned key number. zzz...z = the digits to be dialed automatically (optional).

LD 15 – Define Autodial Delay in Customer Data Block.

Prompt	Response	Description
REQ	NEW CHG	Add, or change.
TYPE	CDB FFC	Customer Data Block. Release 21 gate opener.
CUST	0-99 0-31	Customer number. For Option 11C.
...		
- ADLD	(0)-20	Autodial Delay, in seconds. If 0, then FFC Autodial for 500/2500 telephones is disabled. Only prompted if FFC package (139) is equipped. Inputs are rounded up to the next valid increment of two (i.e., input of 11 would be rounded up to 12).

Feature operation

To program Autodial, follow these steps:

- 1 While the handset is on hook, press the **Autodial** key.
The associated lamp flashes.
- 2 Dial the desired number and press the **Autodial** key again.
The lamp goes dark.

To use Autodial, follow these steps:

- 1 Lift the handset off hook, or press the **Handsfree** key if allowed.
- 2 Press the **Autodial** key.
The call is dialed.

The following instructions are for using the Autodial FFCs:

- Activate and program
The user must dial the Autodial Activate (ATDA) FFC followed by the number to be stored as the Autodial number.
- Activate only
The user must dial the Autodial Activate (ATDA) FFC.
- Deactivate
The user must dial the Autodial Deactivate (ATDD) FFC or the Deactivate (DEAF) FFC.
- Use prerequisites
To use Autodial, the Autodial Activate (ATDA) FFC must have been entered previously and an Autodial number must be stored.
- Use
The user goes off hook, if no digits are dialed within the customer defined time period (ADLD), the system then dials the number stored as the Autodial number.

Autodial Tandem Transfer

Prior to the introduction of this feature, in order to access the Central Office (CO) transfer feature after a Centrex/Trunk Hook Flash on an established trunk call, the user had to manually dial the digits. This procedure permits call completion, but is slow and requires knowledge of the full telephone number. The Autodial Tandem Transfer (ATX) feature allows the Autodial key to be used after a switchhook flash to outpulse Dual-tone Multifrequency (DTMF) digits while a call is in an established state.

One application for the Autodial Tandem Transfer feature is for use in a 911 environment to transfer an emergency call from a Public Safety Answering Point (PSAP) to the most appropriate participating emergency agency. Manually dialing the digits by the PSAP in order to transfer the 911 call to another PSAP can take time and is subject to misdialing. To avoid this, the ADL key programmed with the special station number can be used to send digits to the tandem/Centrex office to transfer the call. Using the ATX feature, a PSAP can transfer the incoming call by pressing the Trunk Hook Flash (THF) key, waiting for a broken dial tone, and then pressing the ADL key.

Operating parameters

The Centrex/Trunk Switchhook feature only supports voice calls. Subsequently, the ATX feature which uses Centrex/Trunk Hook Flash does not support data calls.

Centrex/Trunk Hook Flash cannot be activated during Conference and No Hold Conference calls. Subsequently, the ATX feature which uses Centrex/Trunk Hook Flash does not support them either. Only two-party calls are supported by the ATX feature.

The following trunk types are supported by the ATX feature: AID, CAA, CAM, COT, TIE (supports ATX, not Trunk Hook Flash), CSA, DID, DOD, WATS, DTI, and DTI2.

The ATX feature is not supported on analog (500/2500 type) telephones, Attendant Consoles, and BRI sets.

Release 5 End-to-end signaling (EES) is not supported for this feature (only Release 19 Improved End-to-end signaling is supported).

Single CPU machines are not recommended for 911 applications. Meridian 911 hardware may be required for 911 applications.

Feature interactions

Automatic Dial

The ADL key is used by the Automatic Dial feature to send DN digits out during the dialing stage. Some of the digits, such as “#” and “*”, have special meanings. The “*” causes a three-second pause, while the “#” means end of dialing.

In the ATX feature when the ADL key is used during an established call, the DTMF tones corresponding to the digits programmed in the ADL key are sent out (using End-to-end Signaling to send the digit out). Therefore, the DTMF tones corresponding to “#” and “*” are outpulsed.

Call Detail Recording Records

No modifications to this feature are required for the ATX feature.

For 911 applications most of the calls are incoming calls. Prior to Release 20, Call Detail Recording (CDR) records did not capture End-to-end Signaling (EES) digits for incoming calls, even though the ECDR option was set to YES. For Release 20, the outgoing End-to-end Signaling digits are captured for incoming 911 calls on the incoming CDR records. This only applies to 911 trunks.

Centrex Switchhook Flash

Because Autodial Tandem Transfer uses Centrex Switchhook Flash (THF), it is affected by any modification to the THF enhancement feature.

Conference

The ATX feature is blocked during Conference and No Hold Conference calls.

Digit Display

Digit Display allows the automatic display of information relevant to normal call processing if the sets have display capability and the Class of Service is ADD or DDS. When the THF key is pressed the display gets cleared, and pressing the ADL key causes the ADL digits to be displayed. However, no ADL digits will be displayed if no Tone and Digit Switch (TDS)/XCT is available to generate the Dual-tone Multifrequency (DTMF) tones for the ADL digits.

End-to-End Signaling

EES is used to send the Automatic Dialing (ADL) digits to the Public Exchange/Central Office (CO). Prior to Release 20, the 911 agent manually dials the digits, which are outpulsed to the CO as EES digits. With Autodial Tandem Transfer (ATX), the 911 agent can use the ADL key or manually dial the digits, or use a combination of both methods, to dial the third party's number. The ADL key can be pre-programmed with a prefix and the remaining digits can be dialed manually to distinguish between different numbers. When you combine manual dialing with the ADL key, if EEST = YES and DTMF = YES in LD 15 (X11 Release 5 EES), you hear the DTMF feedback tone as a result of manual dialing and a single feedback tone (X11 Release 19 feedback tone) as a result of pressing the ADL key. To get uniform feedback tone when using the ADL key along with manual dialing, set the DTMF prompt to NO in LD 15 (X11 Release 19).

Last Number Redial

Normally, when the ADL key is pressed during the dialing stage, the ADL number will replace the Last Number Redial number. In the ATX feature, however, when the ADL key is used during the established stage, the ADL digits will not substitute the Last Number Redial number.

Malicious Call Trace - Enhanced

Enhanced Malicious Call Trace implements the ability to send a call trace request to the CO and provides the possibility to record the call using a recorder. This feature also uses the Centrex/Trunk Switchhook Flash feature; the same enhancement applies to the ATX feature.

Speed Call

The Speed Call key cannot be used after THF or during an established call to send digits out to the far site; it can only be used during the dialing stage.

Feature packaging

Autodial Tandem Transfer (ATX) is package 258.

The following packages are also required:

- End-to-End Signaling (EES) package 10
- Trunk Hook Flash (THF) package 157

Feature implementation

LD 11 – Define THF and ADL keys for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type where xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. Terminal Number (Option 11).
CLS	...	
KEY	xx THF yy ADL ll zz..zz	Key xx is configured for the Centrex/Trunk Switchhook Flash feature. Key yy is configured for the Autodial key; ll is the length of the autodial number (the default is 16). zz..zz are the digits to be dialed automatically.

LD 14 – Define THF Class of Service THFA for the trunk.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	aaa	Trunk type, where: aaa = AID, CAA, CAM, COT, TIE (supports ATX, not Trunk Hook Flash), CSA, DID, DOD, WATS, DTI, and DTI2.
TN	l s c u c u	Terminal Number. Terminal Number (Option 11).
CLS	(THFD), THFA	The THF feature is (denied) allowed; the default is THFD.

LD 15 – Define feedback tone when ADL digits are sent out.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	CDB CDR	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
...		
CDR	YES	Call Detail Recording.
...		

- ECDR	YES	Include EES digits in CDR record. This will include ADL digits that are outpulsed during an established call.
...		All-digital connection prefix.
TYPE	FTR	Release 21 gate opener.
- EEST	YES, NO	End-to-end Signaling feedback tone to originating party.
- DTMF	YES, NO	Type of feedback tone. DTMF = NO Single feedback tone (Rls. 19 EES). DTMF = YES DTMF feedback tone (Rls. 5 EES).
Note: ATX only supports X11 Release 19 EES. Therefore, when EEST = YES, DTMF = YES, and the ADL key is pressed, single feedback tone is provided for the user.		

LD 16 – Set the duration for Centrex/Trunk Switchhook Flash.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	RDB	Route Data Block.
CUST	xx	Customer number.
ROUT	0-511	Route number.
TKYP	aaa	Trunk type.
...		

CNTL	(NO), YES	Change control or timers.
- TIMR	FLH <space> 60-(510)-1536	<p>Flash timer in msec. The range of the Centrex switchhook flash timer is 60-(510)-1536. The FLH value is rounded down to the nearest 10 msec. tick. If the value entered is 128 or 129, then it is set to 130 msec.</p> <p><i>Software controlled flash</i> 60-127 msec. Digit 1 will be sent. 128-1536 msec. software controlled switchhook flash.</p> <p><i>Firmware controlled flash</i> The user can enter any value from 60 to 1536 msec. 90 msec. is the hardcoded firmware flash for an XFCOT pack; the technician should enter 90 msec.</p> <p>Note: the FWTM prompt must be set to YES for the trunk associated with this route in LD 14, if firmware timing is to be used.</p>

Feature operation

Normal operation

- 1 An incoming call from a Central Office (CO) terminates to a Meridian 1 set.
- 2 The set user presses the **THF** key, waits for a broken dial tone from the CO, and then presses the **ADL** key to send a string of digits to the CO (the ADL has been pre-programmed with the number).
- 3 The CO will transfer the call to the third party dialed by set A.

Meridian 911 operation

- 1 An incoming 911 trunk call to a tandem/Centrex office terminates to a PSAP on Meridian 1.
- 2 The PSAP call taker presses the **THF** key, waits for a broken dial tone, and then presses the **ADL** key to call the proper number (such as a police station).
- 3 The PSAP call taker then disconnects to complete the transfer.

Automatic Answerback

Automatic Answerback (AAB), when assigned to a Meridian 1 proprietary telephone, allows any incoming call to a single appearance Prime Directory Number (PDN) to be answered automatically. An incoming call will ring one time, then the Meridian 1 system will turn on Handsfree and establish a speech path. When either party hangs up, the call is automatically disconnected.

Automatic Answerback can be permanently assigned either as a Class of Service, or with an Automatic Answerback key/lamp pair assigned to allow activation/deactivation of the feature. If privacy is desired during a call, handset operation is allowed.

Operating parameters

This feature is available on SL-1, M1109, M2112, M2317, M2616, and M3000 telephones.

SL-1 telephones must be equipped with QUS1C Logic Handsfree unit connected by the QKK3 Handsfree interface kit. M1109 telephones require a QKK8 Handsfree interface kit.

Incoming ground start trunks must provide Answer Supervision. If not, the call is connected to the attendant who provides the necessary supervision.

The Prime DN (PDN) must be a single appearance DN.

Calls presented to DN's other than the PDN, or calls presented to the PDN when active on another DN, will not receive Automatic Answerback treatment.

Automatic Answerback can be provided as a Class of Service or on a key/lamp pair. You cannot assign both in service change.

Feature interactions

Automatic Line Selection

Automatic Answerback operates only on the Prime DN (key zero) and has no interrelation with Incoming Ringing/Non-Ringing Line Selection.

Called Party Disconnect Control

Incoming calls on a trunk with Called Party Disconnect Control allowed that terminate on a telephone with Handsfree Answerback are answered automatically. They are not disconnected automatically, however, when the calling party goes on-hook.

Collect Call Blocking

The Automatic Answerback (AAB) feature, when assigned to a Meridian 1 proprietary telephone, allows any incoming call to a single-appearance Prime Directory Number (PDN) to be answered automatically. If an incoming DID or CO call terminates on a set with the AAB feature enabled, the call is automatically answered after one ring. If the set has a CCBA Class of Service, the CCB answer signal is provided in the place of the regular answer signal.

Hot Line

The Automatic Answerback feature is fully compatible with a two-way Hot Line key assigned as the Prime DN.

Message Center

If a telephone is in the Automatic Answerback mode, incoming calls are not routed to the Message Center.

Feature packaging

Automatic Answerback (AAB) package 47 has no feature package dependencies.

Feature implementation

LD 11 – Assign Automatic Answerback as a Class of Service to SL-1, M2112, M2317, M2616, or M3000 telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2112, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(AAD) AAA (HFD) HFA	(Deny) allow Automatic Answerback for all calls. AAA cannot be entered if the AAK key is already programmed. (Deny) Allow Handsfree. Note: HFA is allowed for the M2216 only.

LD 11 – Assign Automatic Answerback key to SL-1, M2112, M2317, M2616, or M3000 telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2112, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(HFD) HFA (AAD) AAA	(Deny) allow Handsfree. Note: HFA is allowed for the M2216 only. Allow (Deny) Automatic Answerback. Must disable to add the AAK key.
KEY	xx AAK	Add Automatic Answerback key. xx = key number. Note: The M2216 with AAA cannot use key 5 as a feature key. Key 5 is reserved for handsfree. The M3000 must use key 35.

Feature operation

To activate Automatic Answerback, follow this step:

- Press **Auto Answer**.
Incoming calls to your PDN will ring once, then be answered with Handsfree turned on.

To deactivate Automatic Answerback, follow this step:

- Press **Auto Answer**.
Incoming calls to your PDN will not be answered automatically.

Note: If Automatic Answerback is assigned as a Class of Service instead of a key on your telephone, you cannot deactivate it.

Automatic Call Distribution

Automatic Call Distribution (ACD) is an optional feature. The ACD feature is used when a large number of incoming calls are answered by a group of ACD assigned telephones. Incoming calls are served on a first-in, first-out basis and are distributed among the available telephones so that the agent position that has been idle the longest is provided with the first call. This guarantees that incoming calls are distributed equally to all agents.

ACD is available in several packages:

- ACD Basic Features (ACD-A)
- ACD Advanced Features (ACD-B)
- ACD Management Reports (ACD-C1)
- ACD Load Management (ACD-C2)
- ACD-MAX
- Meridian MAX

Consult the following NTPs for complete information regarding the various ACD packages:

- *Automatic Call Distribution feature description (553-2671-110)*
- *Automatic Call Distribution ACD management commands and reports (553-2671-112)*

Customers with PC-based ACD Package D systems (ACD-MAX or Meridian MAX) should also consult the documents listed below:

- *Meridian MAX 3.3-AM Installation* (553-4001-101)
- *Meridian MAX Operation* (553-4001-500)
- *Meridian MAX System Messages* (553-4001-800)

Network ACD, introduced in X11 Release 15, uses Integrated Services Digital Network (ISDN) to allow ACD services over the customer's network for automatic least cost call routing in an ACD environment. In addition to the preceding documents, refer to the following:

- *Network ACD description and operation* (553-3671-120).

Automatic Gain Control Inhibit

The Automatic Gain Control (AGC) function, supported by the A44 chip in Meridian digital sets, lowers handset sound levels to minimize background noise. The AGC Inhibit enhancement allows a customer to suppress this function, on a system basis.

Whenever a transmission download occurs, which happens following a SYSLOAD or when the set line cord is plugged in, the option setting in LD 17 is included in the message. The message is interpreted by set's firmware and the appropriate setting is applied.

Operating parameters

There are no feature requirements.

Feature interactions

There are no interactions with other features.

Feature packaging

Automatic Gain Control Inhibit is included in base X11 system software.

Feature implementation

LD 17 – Define AGC setting.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CFN ATRN	Configuration. Release 19 gate opener.
...		
ATRN	YES	Aries (Meridian Modular set) transmission parameter; only prompted if response to TYPE is CFN.
- AGCD	(NO) YES	Automatic Gain Control Disable.

Feature operation

No specific operating procedures are required to use this feature.

Automatic Guard Detection

This feature verifies the transition from a high-resistance to a low-resistance loop upon correct seizure of an inactive trunk. Incorrect seizure results in the release of the faulty trunk and the attempted seizure of the next trunk in the hunt sequence.

Automatic Guard Detection will prevent the seizure of a trunk if the trunk is one of the following:

- an open circuit in tip, ring, or both, or
- no current is present when the trunk is seized.

Operating parameters

There are no feature requirements.

Feature interactions

There are no interactions with other features.

Feature packaging

International Supplementary Features (SUPP) package 131.

Feature implementation

LD 14 – Create or modify the data blocks for trunks.

Prompt	Response	Description
...		
SEIZ	(NO) YES	Automatic Guard Detection for outgoing trunks (disabled) enabled.

Feature operation

No specific operating procedures are required to use this feature.

Automatic Hold

The Automatic Hold feature allows an active call to be put on hold without having to use a separate Hold key. There are three ways to put a call on hold with the Automatic Hold feature:

- Press the active call key, the established call is automatically placed on hold.
- Press an idle Directory Number (DN) key, the established call is automatically placed on hold.
- Press any idle key and the established call is placed on hold.

If a set user is on an established call and wishes to answer an incoming call or initiate an outgoing call, the set user can press any idle DN key to place the call on hold and either initiate or establish a call on the same key. To terminate a call with the Automatic Hold feature, the Release key must be pressed.

This feature requires a new Class of Service implementation (Automatic Hold Class of Service).

Operating parameters

The Automatic Hold feature can be equipped on all multi-line Meridian 1 proprietary sets. The functionality to hold a call already exists on the Attendant Console. The Automatic Hold feature is not applicable on analog (500/2500) sets.

Feature interactions

Attendant Break-In to Inquiry Calls

A consultation call on a Meridian 1 proprietary set, using a second DN along with Automatic Hold, is not treated as an inquiry call. The consultation call may be broken-in to, but the call held on the first DN is not involved in the Break-In.

Attendant Recall with Splitting

Automatic Hold does not have precedence over Attendant Recall (for instance, Automatic Hold cannot be activated until the attendant answers the recall presented on the console). However, it can be activated before the attendant answers a call transferred to the console.

Automatic Call Distribution Incalls Key

The Automatic Call Distribution (ACD) does not override the Incall key. The Incalls key is unique to the Automatic Hold feature. If an Automatic Call Distribution (ACD) agent has an active call on the Independent Directory Number (IDN) key, and a call comes in to an Incalls key, pressing the Incalls key to answer the call puts the active call on the IDN key on hold.

Call Transfer

If a call is established or ringing on the Transfer key, pressing any idle DN key automatically puts the call on hold. To transfer an active call, press the transfer key once to reestablish the call, press a second time to complete the transfer. To release the transfer feature you must press the release key.

Call Waiting

Pressing the Call Waiting key to answer a waiting call, makes that call active while the previous call is put on hold.

Conference

If a call is established on the conference key, pressing any DN key puts the Conference call on hold. The user must press the conference key to reestablish the call. Pressing the conference key a second time completes the Conference call.

No Hold Conference

The Automatic Hold feature does not apply in the case of a No Hold Conference call. Automatic Hold does not override the No Hold Conference feature.

Digit display

Digit display is the same with automatic hold as it was with manual hold.

Automatic Answer Back

The Automatic Hold feature is not applicable with the Automatic Answer Back feature.

Individual Hold Enhancement

When a Multiple Appearance Directory Number (MADN) call is put on hold on a Meridian 1 proprietary set, the Hold key lamp flashes at this user's set, while a slow flicker is shown at all other appearances of the same DN. With more than one single line MADN (SCR/SCN/HOT/PVR/PVN) active on a conference call, the user is put on hold either by pressing the Hold key, or with Automatic Hold feature enabled, the user can press the active single line MADN. With the Release Option disabled, the active call on the single line MADN is put on hold. With the Release Option enabled, the active call on the single line MADN is dropped.

Display Overflow on Calling Number Identification

If the number of Calling Number Identification (CNI) digits exceeds the capacity of the digit display, the active DN key can be pressed to show the remaining digits. If the active DN key is pressed again, the established call is placed on hold. The established call can be placed on hold, before the digits are displayed, by pressing any other DN key.

Group Call (GRC)

Only the originator of a Group Call (GRC) can put the Group Call on hold.

Hold Key

A set configuration with Automatic Hold Allowed Class of Service can still place calls on hold using the Hold key.

Enhanced Hotline and Hotline

On a Meridian 1 proprietary set pressing a designated Hotline key places an outgoing call to a pre-defined DN. Pressing any idle DN key or pressing the hotline key a second time can place this call on hold. The user can use the same DN key they used to put the call on hold to make an outgoing call or to answer an incoming call.

On a two-way Hotline key, the incoming call is held if the hotline key is pressed twice or if an idle DN key is pressed. Pressing the Release key while on an active Hotline call terminates the call.

Lamp Status

The LED lamp status indications of calls put on automatic hold are identical to those for calls that are put on hold using the Hold key.

Last Number Redial (LNR)

A set with Last Number Redial Allowed (LNA) Class of Service can put an active call on hold by pressing another idle DN key and still activate the Last Number Redial feature to make an outgoing call. Automatic Hold does not override this feature.

Music on Hold

Music on Hold may be applied to calls put on automatic hold.

Voice Call

If a user presses the Voice Call key while a call is established on the key, the call is placed on hold. If the Voice Call key is pressed while a call is established on another DN, the established call is put on hold.

Feature packaging

Automatic Hold feature is packaged as part of the X11 base software.

Feature implementation

LD 11 – Create or modify the data blocks for set.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	xxxx	Set type xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, 3000.
TN	l s c u c u	Terminal Number. l = loop, s = shelf, c = card, u = unit for Options 51C - 81C c = card, u = unit for Option 11C.
CUST	xx	Customer number xx as defined in LD 15.
...	...	
CLS	AHA	AHA = Automatic Hold allowed. (AHD) = Automatic Hold (denied).
...	...	
KEY	xx aaa yyyy	The set type must be configured with two DN keys. Where: xx = key number aaa = DN key type. DN types supported include: ACD, CWT, DIG, GRC, HOT, MCN, MCR, SCR, SCN, or VCC. yyyy = Directory Number for key type. Note: Refer to feature interactions in this chapter when assigning keys to see if feature operation conditions are affected.

Feature operation

Put on hold

With Automatic Hold enabled, a call can be placed on hold by pressing the DN on which the call is active or by pressing any other idle DN key.

Make new call

An active call can automatically be placed on hold, if any idle DN key is pressed. A new call can now be made on the DN key that was pressed or any other DN key.

Answer a call

If the set user is on an active call and a second call is presented on another DN, the user can answer the incoming call which automatically places the first call on hold.

A user of a set having Automatic Hold Class of Service can still place an active call on hold by pressing the Hold key.

To terminate a call

To terminate a call the set user must press the Release key.

Automatic Line Selection

Automatic Line Selection allows manual or automatic selection of incoming and outgoing lines for a given Meridian 1 proprietary telephone on a Class of Service basis. When a user lifts the handset, the telephone automatically selects a preferred line according to its priority. The line preferences are as follows, listed in order of selection priority:

- Manual Line Selection

The user manually selects the DN to be used before going off-hook. Dial tone is returned if the line is idle. If the line is ringing, the call is answered and connected to the speaker of the telephone or Handsfree unit.

- Incoming Ringing Line Selection

With Incoming Ringing Line Selection enabled, when the user goes off-hook, the telephone automatically scans the DN keys (without the user first manually selecting a DN key). If a line on the telephone is ringing, it is selected and the call is answered.

- Incoming Non-Ringing Line Selection

With Incoming Non-Ringing Line Selection enabled, when the user goes off-hook, the telephone scans the DN lines and answers any unanswered incoming calls that appear but do not ring at that telephone.

- Outgoing Line Selection

With Outgoing Line Selection enabled, when the user goes off-hook, the telephone scans the DN keys for an idle line. If a line is idle, it is selected and dial tone is returned.

- Prime Line Selection

When the handset is lifted, the system processes any manual, incoming, or outgoing line selections. If no line is selected by one of these modes, a designated Prime Line (the DN on key 0) is selected.

Operating parameters

The Automatic Line Selection feature is available on Meridian 1 proprietary telephones only.

The user determines which line is in use by observing lamp state changes.

Feature interactions

Audible Message Waiting

The Audible Message Waiting signal is given if there is a message waiting on whatever line is selected by Outgoing Line Selection.

Automatic Call Distribution (ACD)

An ACD DN is not selected by automatic Incoming Non-Ringing and Outgoing Line Selection. It is selected by Incoming Ringing Line Selection.

Automatic Answerback

Automatic Answerback operates only on the Prime DN (key zero) and has no interrelation with Incoming Ringing/Non-Ringing Line Selection.

Automatic Redial

Manual Line Selection, Outgoing Line Selection or Prime Line Selection is interpreted as accepting the Automatic Redial (ARDL) by the calling party.

Call Waiting

A call on the Call Waiting key is not selected.

Dial Intercom

A Dial Intercom DN is selected by Incoming Ringing Line Selection and Outgoing Line Selection.

Group Call

This feature is not selected for automatic Outgoing Line Selection or Non-Ringing Line Selection. It is selected for Incoming Ringing Line Selection.

Hot Line

Since the Hot Line key acts as a Single Call Ring (SCR) key, incoming ringing line preference can be applied. Outgoing line preference automatically selects a line other than the current Hot Line, so that a Hot Line call is not accidentally activated

Private Line Service

A Private line DN is selected by Incoming Ringing/Non-Ringing Line Selection and Outgoing Line Selection.

Voice Call

This feature is not selected by automatic Outgoing Line Selection. It is selected for Incoming Ringing and Non-Ringing Line Selection.

Feature packaging

Automatic Line Selection (LSEL) is package 72 which has no feature package dependencies.

Feature implementation

LD 11 – Assign Automatic Line Selection for each Meridian 1 proprietary telephone.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	aaaa	Telephone type, where: aaaa = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(IRD) IRA (NID) NIA (OLD) OLA	(Deny) allow incoming ringing line preference. (Deny) allow incoming non-ringing line preference. (Deny) allow outgoing line preference.

LPK	xx	<p>Specify the last key to be scanned for line preference (such as 0-7, 10-17, 20-27).</p> <p>Prompted only if CLS = IRA, NIA, or OLA.</p> <p>Note: A value of 0 (zero) for LPK disables this feature.</p>
-----	----	---

Feature operation

No specific operating procedures are required to use this feature.

Automatic Number Identification

The Automatic Number Identification (ANI) feature automatically identifies a station originating an outgoing toll call and its destination party and transmits the information to a recording office.

A system with ANI sends information about stations involved in an outgoing toll call, via Multifrequency (MF) signaling, over Central Automatic Message Accounting (CAMA) trunks to toll-switching CAMA, Traffic Operator Position System (TOPS) or Traffic Service Position System (TSPS) offices.

The software portion of ANI performs the following functions:

- identifies an originating outgoing toll call
- determines the calling station identification, and controls the signaling and supervision of the ANI trunk circuit
- connects the MF sender and the ANI trunk circuit
- loads up to 16 digits that are to be MF outputted over the ANI trunk into the MF sender
- orders initiation of the outputting
- removes the connection between the trunk and the MF sender and establishes the speech path to the trunk

Note: With the X11 Release 23 feature, E.164/ESN Numbering Plan Expansion, the MF sender card can send 32 digits to the XCT card in one ANI message. This allows an International Number to be sent in one ANI message, instead of two ANI messages.

ANI signaling

E&M, DX or loop signaling sends ANI information to the Central Office. ANI supports three basic methods: Bell, NT400 and NT500.

- The Bell method interfaces the Meridian 1 to
 - Bell system TOPS, TSPS or CAMA offices
 - Strowger Automatic Toll Ticketing (SATT) systems types 57, 59, 62, and 70A. These systems accept 1+ and 0+ calls from the Meridian 1 using MF pulsing through customer-provided adapter circuits
 - Stromberg Carlson Ticketing Systems
- The NT400 method (Modes A and B) is an interface to the Northern Telecom NT400 ticketing system. Mode A repeats the toll access code (0 or 1) in the called number, whereas Mode B does not.
- The NT500 method (Modes A, B and C) interfaces to Northern Telecom NT500 ticketing systems.
 - Mode A repeats the Access Code (0 or 1) in the called number format for Central Offices that use MF outpulsing and combined trunk groups.
 - Mode B does not repeat the access code.
 - Mode C is used in Central Offices with MF outpulsing and trunk groups dedicated only to 1+ or 0+ calls.

The Bell and the NT400/500 methods have different supervisory signals and different number formatting, as illustrated in Figures 4 and 5. Additionally, there are formatting differences between the NT400 and NT500 method. [Tables 19](#) through [22](#) summarize the possible combinations of trunk types and ANI signaling methods.

The MF sender cable allows the Meridian 1 to independently outpulse up to 16 digits (including starting and ending digits, called KP and ST respectively) in each of the 30 possible network loop time slots. With the X11 Release 23 feature, E.164/ESN Numbering Plan Expansion, the MF sender can send up to 32 digits. Therefore, an International Number to be sent in one ANI message, instead of two ANI messages.

Figure 4
Supervisory signals (Bell method)

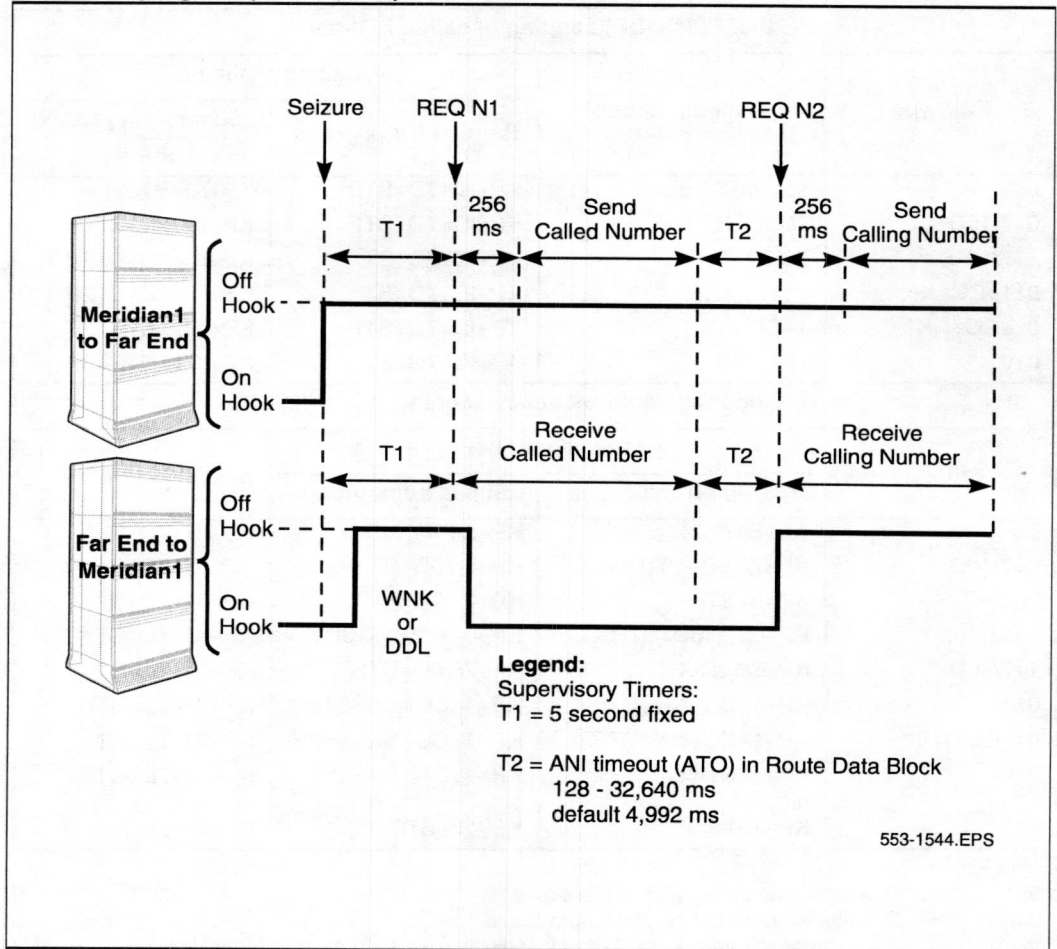


Table 19
Called and calling number information format (Bell method)

Dial Pulse (DP) sending of called numbers			
Call type	Called number	Calling number	
		Regular trunk group	Supervisory trunk group
0	seizure no digits	KP+ID+7D+STP	KP+ID+ST3P
0+7/10D	7/10D	KP+ID+7D+STP	KP+ID+7D+STP
1+7/10D	7/10D	KP+ID+7D+ST	KP+ID+7D+ST2P
011+CC+NN	11+CC+NN	KP+ID+7D+ST	KP+ID+7D+ST2P
01+CC+NN	1+CC+NN	KP+ID+7D+STP	KP+ID+7D+ST3P
010	10	KP+ID+7D+STP	KP+ID+7D+ST3P
Modified Bell Multifrequency sending mode (M2B)			
Call type	Called number		Calling number
	Regular trunk group	Super trunk group	
0	KP+STP	KP+ST3P	KP+ID+7D+ST
0+7/10D	KP+7/10D+STP	KP+7/10D+ST3P	KP+ID+7D+ST
00	KP+0+STP	KP+0+ST3P	KP+ID+7D+ST
00+7/10D	KP+0+7/10D+STP	KP+0+7/10DST3P	KP+ID+7D+ST
1+7/10D	KP+7/10D+ST	KP+7/10D+ST2P	KP+ID+7D+ST
011+CC+NN	KP+1+CC+NN+ST	KP+1+CC+NN+ST2P	KP+ID+7D+ST
01+CC+NN	KP+1+CC+NN+STP	KP+1+CC+NN+ST3P	KP+ID+7D+ST
010	KP+1+STP or KP+10+STP	KP+1+ST3 or KP+10+ST3P	KP+ID+7D+ST or KP+ID+7D+ST
Legend: 0+ = Operator-assisted call, more digits dialed 0- = Operator-assisted call, no other digits dialed 00+ = Toll operator assisted call, and any other digits dialed (X11 release 12 and later) 00- = Toll operator assisted call, no other digits dialed (X11 release 12 and later) 1+ = DDD call CC = Country code NN = National number ID = Information digit KP = Prepare for digits signal ST = End of pulsing STP = Premium ST2P = Identifier error			

Table 20
Called and calling number information format (NT400 method)

Mode	Call type	Called number	Calling number
A	0+	KP+0+7/10D+ST	KP+CAT+7D+ST ¹
	0-	KP+0+ST	KP+CAT+7D+ST ¹
	1+	KP+1+7/10D+ST	KP+CAT+7D+ST ¹
B	1+	KP+7/10D+ST	KP+CM+CAT+7D+ST ¹
	0-	KP+ST	KP+CM+CAT+7D+ST ¹
	1+	KP+7/10D+ST	KP+CM+CAT+7D+ST ¹
Legend: CM = 1 (for 1+ calls) = STP (for 0± calls) CAT = XX (category digits) X = 0, 1,...,9, and XX is customer-defined data defining the type of long-distance call ST ¹ = ST (normal) = ST2P (identifier failure) ST ² = ST2P (identifier error) = KP (station-to-station 1+) = STP (premium 0±)			

Table 21

Called and calling number information format (NT500 method)

Mode	Call type	Called number		Calling number
		Dial Pulse (DP) sending	Multifrequency sending	
A	0+	0+7/10D	KP+0+7/10D+ST	KP+CAT+7D+ST ¹
	0-	0	KP+0+ST	KP+CAT+7D+ST ¹
	1+	1+7/10D	KP+1+7/10D+ST	KP+CAT+7D+ST ¹
B	0+	not applicable	KP+7/10D+ST	KP+CAT+7D+ST ²
	0-	not applicable	KP+ST	KP+CAT+7D+ST ²
	1+	not applicable	KP+7/10D+ST	KP+CAT+7D+ST ²
C	0+	not applicable	KP+7/10D+ST	KP+CAT+7D+ST ¹
	0-	not applicable	KP+ST	KP+CAT+7D+ST ¹
	1+	not applicable	KP+7/10D+ST	KP+CAT+7D+ST ¹

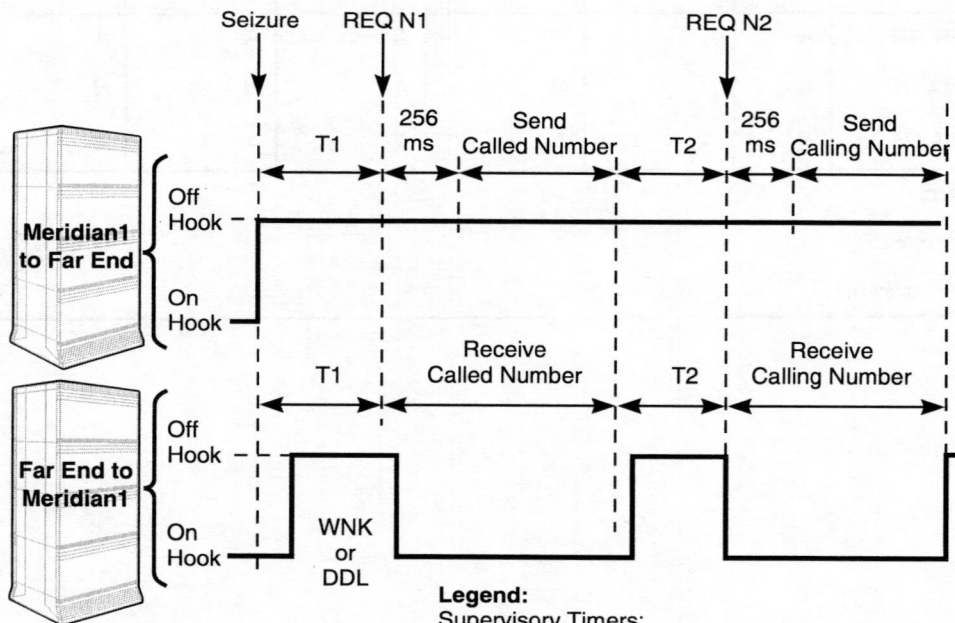
Legend:

CM	=	1 (for 1+ calls)
	=	STP (for 0± calls)
X	=	0, 1,...,9, and XX is customer-defined data defining the type of long-distance call
ST ¹	=	ST (normal)
	=	ST2P (identifier failure)
ST ²	=	ST2P (identifier error)
	=	KP (station-to-station 1+)
	=	STP (premium 0±)

Table 22
Possible combinations of trunk types and ANI methods

Trunk type	Bell	NT400 A	NT400 B	NT500 A	NT500 B	NT500 C
CAMA-MF	A	A	A	A	A	A
CAMA-DP	A	N	N	A	N	N
CCSA-MF	A	A	A	A	A	A
Legend: A = Allowed N = Not allowed						

Figure 5
Supervisory signals (NT400/500 method)



553-1545.EPS

Calling and called number information

The called number information always includes the Directory Number (DN) dialed (typically seven or ten digits). The information can also include the toll access code (typically 0 or 1). Multifrequency (MF) sending includes additional control signals such as KP (preparatory digits) or ST (end of pulsing).

The calling number information is always sent in MF. It consists of a calling Directory Number (always seven digits), the preparatory and end-of-pulsing signals and other auxiliary signals. For example, an information digit with the Bell method and class mark and category digits with the NT methods.

Each Meridian 1 customer system is assigned a three-, four-, or five-digit Automatic Number Identification (ANI) Listed Directory Number that identifies the customer to the toll office. The calling number for ANI is obtained by combining the ANI LDN with one of the following:

- Analog (500/2500 type) set: Directory Number (DN) of the telephone;
- SL-1 telephone: primary DN of the telephone;
- Attendant: ANI attendant number specified on a “per customer” basis; or
- TIE trunk: ANI trunk number specified on a “per trunk group” basis. See *X11 features and services* for information on how to assign ANI on a per trunk group.

The Directory Number Expansion (DNXP) package allows an internal DN to have up to seven digits. If the system is equipped with this package, all DN types listed can be expanded to seven digits maximum. Their combined length with the ANI LDN must remain at seven digits.

The ANI Listed Directory Number is based on the customer’s dialing plan. Otherwise, only the leading digits of a DN (station, attendant or TIE trunk) are retained in the ANI calling number. The full seven digits of a DN can be used as the ANI calling number, provided that no ANI Listed Directory Number is configured.

The calling number information is obtained immediately before being sent. Calls that are modified (For example, calls that are attendant extended or transferred) are billed against the party that initiated the trunk call. (This publication is consistent with Automatic Identification of Outward Dialing).

Automatic Number Identification (ANI)/Central Automatic Message Accounting (CAMA) Enhancement

Two call types available in X11 Release 12 and later allow the ANI Bell method to handle 00- and 00+ calls. Customers dialing 00 can transmit KP + 0 + STP to access toll operator assistance. When 0 is dialed, customers can transmit KP + STP to access local operator assistance. [Table 23](#) shows the actions taken by calling 00 and other combinations starting with 0.

Table 23
Actions taken with 00- and 00+ calls

Called number	Bell MF M1A action taken	Bell MF M2B action taken
0	KP + STP	KP + STP
0 + 7/10D	KP + 7/10D + STP	KP + 7/10D + ST3P
00	Overflow	KP + 0 + ST3P
00 + 7/10D	Overflow	KP + 0 + 7/10DST3P

After an ANI/CAMA route has been accessed, the Meridian 1 receives digits representing the called number. [Table 23](#) identifies the actions taken.

Note: M1A represents the current Bell MF signaling mode. M2B represents the modified Bell MF signaling mode.

Automatic Number Identification/Central Automatic Message Accounting

CAMA routes using Bell MF signaling Mode B outpulse KP + 0 + ..., + START and allow 00- and 00+ calls. 00- and 00+ calls are denied for routes using a different signaling mode.

Controlled Class of Service Allowed (CCSA)

CCSA routes do not support ANI/CAMA.

Route Selection (RS)-Automatic Number Identification

Route Selection for ANI does not support 00- and 00+ dialing. Calls made using 00+ or 00- are treated as 0+ calls. The RS-ANI Data Block determines the 0+ call routing.

Operating parameters

Automatic Number Identification (ANI)/Digital Trunk Interface (DTI) supports CAMA trunks. CCSA-ANI trunks are not supported.

ANI/CAMA operates on a route basis and applies to CAMA routes using the Bell MF signaling method only.

All route members must have a Multifrequency Route (MFR) Class of Service (CLS).

ANI/CAMA is not supported over Dial Pulse trunks. When activating this feature, do not use mixed trunk members.

If 1 or 0 is not dialed following the Trunk Access Code, the Meridian 1 system intercepts all outgoing calls over CAMA trunks. This restriction does not apply to outgoing calls over CCSA-ANI trunks.

For E&M or DX signaling, use the QPC71 E&M/DX/Paging trunk circuit card. This card does not have to be modified for ANI. For a complete description of this trunk circuit card, refer to *QPC71 E&M/DX Signaling and Paging Trunk Card description*.

For loop signaling, the QPC72 loop signaling trunk circuit card is used. Connections are the same as those described in *QPC449 Loop Signaling Trunk Cards description*.

Note: The two trunk cards mentioned above provide compatibility with the signaling and supervision requirements of CAMA trunks. They also provide a path for the eventual analog transmission of the MF tones and for speech transmission.

Feature interactions

M911

With X11 Release 19 and later, the Meridian 911 permits special treatment for emergency calls. This feature requires the QPC916 MF receiver card. For more information about this card, see *Feature Group D description and operation*.

Valid Automatic Number Identification combinations

When the Meridian 1 receives a call from a 911 trunk, the trunk receives the ANI information through MF signaling from the Central Office. A valid ANI, received via 911, includes a 1-digit NPD or ID digit followed by a 7-digit calling number. The NPD or identification digit can be displayed directly on the answering set display or can be translated to a Numbering Plan Area (NPA) via the Numbering Plan Identification (NPID) translation table in LD 16.

The following are valid ANI digit combinations:

- KP A NXX-XXX ST (where A= the NPD, which can be 0–9);
- KP I NXX XXX ST (where I = an information digit, which can be 0–9;)
- KP I ST (where I = the information digit for ANI failure or Operator Number Identification (ONI). ANI failure is usually designated by a 2 and ONI by a 1); and
- KP A ST (where A denotes maintenance testing, typically the digit 8).

If only one digit is received and that digit is defined in the NPID table as TEST or FAIL, the call is treated as a test case or a call with ANI failure.

Table 24 shows an example of an NPID table. The last two fields, ANI Failure and Test Calls, are mutually exclusive. If the NPD/ID digit 0 is interpreted as ANI failure, it cannot also be interpreted as a test call.

Table 24
Interpreting NPD/ID numbers

NPI/Info Digit	NPA	ANI Failure	Test Call
0	408	No	No
1	415	No	No
2	NONE	No	No
3	NONE	No	No
4	NONE	No	No
5	NONE	No	No
6	NONE	No	No
7	NONE	Yes	No
8	NONE	No	Yes
9	NONE	No	No

If the NPA is not specified (NPA = NONE), the NPD/ID digit appears on the set. Otherwise, the NPA appears on the set for calls with a valid ANI.

Seven zeros indicate a failure (for example, MF receive fault, garbled tones or a timeout). After all ANI digits are received or a timeout occurs, the Meridian 1 processes the call.

A test call has no display.

Trunk route assignments

The 911 trunk must auto-terminate to a Controlled Directory Number (CDN) defined in LD 23. The start arrangement must be WINK and the Class of Service must be defined as Priority Trunk (APY) and Multifrequency Receiver (MFR).

ANI failure

If ANI information is incorrectly delivered, the call may not have a valid ANI, as indicated by the seven zeros in the display.

ANI failure affects the incoming call's Application Module Link (AML) message, which informs the application with a special DN type value. The 911 caller's DN type Information Element (IE) contains one of these types: ANI with NPD, ANI with ID or ANI failure.

Some Central Offices indicate ANI failure with an 8-digit string consisting of NPD followed by 911-0YYY, where YYY denotes the problem. The ANI string 911-0YYY is not treated as a failure so that the digits appear on the screen rather than being overwritten by seven zeros.

Redundancy and call loss requirements are very precise. If the AML terminal display is unavailable (for example, if the host computer is down), the ANI information still appears on the set display.

CDR for 911 ANI calls

If CLID is set to YES in LD 17, 911 ANI information is included in CDR Q records (connection records). CDR records affected are Normal Records, Start/End Records, Authorization Code Records, Connection Records (Q, R, F) and Charge Account Records.

The CDR Q record option is not recommended, since the Meridian 911 application does not need Connection Records and they consume valuable CPU real time. The CDRQ record can nonetheless be configured to include ANI.

Route Selection (RS-ANI)

The optional Route Selection (RS-ANI) is provided with ANI. RS-ANI routes toll calls automatically through specified trunks to toll offices and routes local calls through CO trunks to local switching offices.

To place an outgoing CO call, the station user dials the RS-ANI Access Code (typically 9), followed by a CO Directory Number. If the user dials 0 or 1 after the Access Code, the call routes through a toll trunk group; otherwise, the call routes through a CO trunk group.

Operation

After receiving the RS-ANI Access Code, the Meridian 1 sends the user the second dial tone. The user has 30 seconds to dial a digit or digits. Following this time frame, the Meridian 1 removes the dial tone and provides overflow tone for an additional 15 seconds. The second dial tone is removed after the first digit or digits are dialed. [Table 25](#) shows the Meridian 1 action that corresponds to the digit dialed.

Although it does provide an overflow tone if the user presses the octothorpe key (#), the Meridian 1 ignores the asterisk (*) key. If 0# is dialed, the Meridian 1 activates a 4-second timer and times out.

Table 25
RS-ANI operation

Digit dialed	Meridian 1 action taken
0	A four second timer starts to monitor the next digit dialed. Routing is based on this digit, as follows:
none	The timer times out and the call (0-) routes through the trunk group specified for 0- calls.
1	The timer cancels, and the call (IDD) routes through the trunk group specified for 1+ of IDD calls.
2-9	The timer cancels, and the call (0+) routes through the trunk group specified for 0+ calls.

Trunk types

TIE trunks access RS-ANI as stations do, but all other trunks are intercepted. Any type of trunk can be used for RS-ANI, with the exception of special-purpose trunks such as Paging, Dictation or Recorded Announcement. Normally, the trunk routes shown in [Table 26](#) are used.

Table 26
Trunk route types

Call type	Trunk type
0±	Central Automatic Message Accounting (CAMA)
1+, 011+, 01+, 010-	Central Automatic Message Accounting (CAMA)
other	Central Office (CO)

Class of Service options

Conditionally Unrestricted station Class of Service places non-ARS-handled toll calls through ANI. Refer to *X11 features and services* and *X11 Software input/output guide* to implement this option. See [Table 27](#) for RS-ANI Class of Service options.

Table 27
RS-ANI Class of Service options

Option	Explanation
UNR	Allowed to receive calls from and originate calls to the exchange network (CO, FX, WATS). This includes toll calls.
CUN	UNR for calls placed through ARS and for calls placed through ANI TLD for all other calls
CTD	UNR for calls placed through ARS TLD for all other calls
TLD	Allowed to receive calls from the exchange network; allowed dial access to local exchange network; allowed access to toll network by means of Meridian 1 attendant only; denied access to exchange operator
Legend UNR = Unrestricted CUN = Conditionally Unrestricted CTD = Conditionally Toll Denied TLD = Toll Restricted Service	

Trunk Optimization

ANI trunks allow the Trunk Optimization (TRO) feature to be used whenever calls are routed over PRI and ISL trunks. For additional information on this feature, refer to *ISDN Primary Rate Interface description and administration*.

Directory Number Expansion

If the DN Expansion package is equipped, the ANI billing number (ANAT) can have up to seven digits. The total number of digits for ANAT and ANI listed DN (ANLD) cannot exceed seven.

New Flexible Code Restriction

Calls from Toll Denied (TLD) stations routed by Automatic Number Identification (ANI) are subject to NFCR. Calls placed by Conditionally Toll Denied (CTD) and Conditionally Unrestricted (CUN) Class of Service stations subject to ANI are treated as unrestricted calls.

Feature packaging

Automatic Number Identification (ANI) is package 12. The following packages are also required:

- ANI Route Selection (ANIR) package 13, which requires:
 - Automatic Number Identification (ANI) package 12

Feature implementation

LD 15 – ANI customer data.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB ANI	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
ANAT	xxx...x	ANI billing number for attendants making ANI calls. (The total number of digits in ANAT and ANLD cannot exceed seven digits.)
ANLD	xxx...x	ANI listed DN for billing purposes (0-5 digits). (The total number of digits in ANAT and ANLD cannot exceed seven digits.)

LD 16 – Centralized Automatic Message Accounting (CAMA) route data.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	RDB	Route Data Block.
CUST	xx	Customer number.
ROUT	xxx	CAMA route number.
TKTP	CAM CAA	SIGL = Bel, NT4, or NT5. SIGL = Bel.
SIGL	BEL NT4 NT5	Bell method signaling. ITT-North NT400 signaling (only if TKTP = CAM). ITT-North NT500 signaling (only if TKTP = CAM).
FORM	M1A M2B M3C	For BEL, NT4, or NT5 (NT4 and NT5 not applicable if TKTP = CAA). For BEL, NT4, or NT5 (NT4 and NT5 not applicable if TKTP = CAA). For NT5 (only if TKTP = CAM).
ICOG	OGT	Outgoing.
ACOD	xxxx	Access Code.
ID	0-9	Identification digit for CAMA routes (for BEL).
CAT	00-99	Category digits for CAMA routes (only if TKTP = CAM). For NT4 and NT5.
STRK	(NO) YES	(Disable) enable super trunk group feature (Bell method signaling only).
SPTO	(NO) YES	7- to 10-digit, or 3-digit outpulsing for ANI calls.
ANKP	(NO) YES	(Do not) suppress KP signal on ANI calls.
CNTL	(NO) YES	(Do not) allow changes to timers.
- TIMR	ATO 128–65,408	ANI timeout timer in milliseconds (default is 4,992).
- ANDT	(NO) YES	(Do not) provide ANI dial tone.

LD 14 – Centralized Automatic Message Accounting (CAMA) trunk data.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	CAM CAA	CAMA trunk. CAMA-ANI trunk (SIGL = BEL in LD 16).
TN	l s c u c u	Terminal Number. For Option 11.
XTRK	XUT XEM EXUT	Extended Universal Trunk card. Extended E & M trunk card. Enhanced Extended Universal Trunk (Release 19 and later).
...		
CUST	xx	Customer number.
...		
RTMB	0-511 0-510 0-127 0-510	Route number, Member number. For Option 11C.
...		
SIGL	DPN DAS	Digital Private Network Signaling System Number 1. Digital Access Signaling System Number 2.
...		
SUPN	(NO) YES	Answer and disconnect supervision required.
...		
CLS	aaa	Class of Service options.

LD 28 – Route selection data for ANI calls.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	RSA	Route selection for ANI.
RASC	xxxx	RS-ANI access code digits.
0-RT	xxxx	Route access code for 0- calls.
0+RT	xxxx	Route access code for 0+ calls.
1RT	xxxx	Route access code for 1+ or IDDD calls.
CORT	xxxx	Route access code for local calls.

LD 16 – Centralized Automatic Message Accounting (CAMA) route data.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	RDB	Route Data Block.
CUST	xx	Customer number.
ROUT	xxx	CAMA route number.
TKTP	TIE, CCSA	Trunk type.
ANTK	xxxx	Billing number for TIE or CCSA trunks that are allowed a tandem connection to ANI.

Feature operation

No specific operating procedures are required to use this feature.

Introduced in X11 Release:	14
Networking:	No

Automatic Number Identification on DTI

Introduced in X11 Release 14.43, Automatic Number Identification (ANI) on Digital Trunk Interface (DTI) extends the ANI feature to digital Central Office (DCO) and Digital Toll Office (DTO) trunks. In addition, the ANI capability is extended to Primary Rate Access (PRA) trunk routes through the Primary Rate Interface.

For further information, refer to the Automatic Number Identification feature module in this guide.

Operating parameters

The QPC189F or NT817 (all vintages) are required to support this feature.

DTI interfaces externally with a digital trunk carrier facility at the DS-1 rate. MF signals pass across this interface in a digitally encoded format.

Supervisory signaling through DTI is accomplished by A&B bit signaling. A&B bit signaling can emulate E&M or loop signaling.

Address (called number) signaling through DTI can be dial pulse or MF. Immediate start or wink start may be used.

Calling number information signaling is done using the MF signaling method.

This enhancement supports the three basic signaling methods for ANI. These are Bell, NT400, and NT500.

Feature interactions

There are no interactions with other features.

Feature packaging

This enhancement is included in Automatic Number Identification (ANI) package 12 which requires X11 Release 14.43 and later.

Feature implementation

LD 16 – Define Central Office or Toll Office port types.

Prompt	Response	Description
...		
DTRK	(NO) YES	Digital trunk route.
DGTP	DTI	Digital trunk type.
PTYP	(DCO) DTO	CO or Toll Office port type (default DCO).

Feature operation

No specific operating procedures are required to use this feature.

Automatic Preselection of Prime Directory Number

Automatic Preselection allows a user to select the Directory Number (DN) assigned to key zero by lifting the handset. It is not necessary to operate the DN key to get dial tone or to answer an incoming call. The DN assigned to key zero is referred to as the Prime Directory Number (PDN) for that telephone.

Operating parameters

The Automatic Preselection feature does not apply to single-line telephones.

Feature interactions

Automatic Redial

If a call is processed on key 0 and the calling party lifts the handset and selects the Prime Directory Number (PDN), this is interpreted as accepting a redialed call.

Feature packaging

The Automatic Preselection of Prime Directory Number feature is included in base X11 system software.

Feature implementation

The desired Directory Number is assigned to key zero in LD 11.

Feature operation

With this feature enabled, lifting the handset automatically selects the DN assigned to key zero to receive dial tone or answer an incoming call on that key.

Introduced in X11 Release:	All
Networking:	No

Automatic Set Relocation

Automatic Set Relocation (ASR) and Modular Telephone Relocation (MTR) move a telephone to another location without the intervention of a craftsperson. X11 Release 18 added MTR to reduce the number of steps required to relocate the Meridian Modular Terminals.

With ASR, Directory Numbers (DNs) and features assigned to the telephone are maintained. Up to 32 telephones can be relocated at any one time. The following access codes are associated with this feature:

- Special Prefix code (SPRE) relocation code 81
SPRE codes are system codes enabling analog (500/2500 type) telephones to utilize additional telephone features. Refer to the Telephones feature module in this guide.
- Flexible Feature Code (FFC) relocation number
FFCs are user programmable codes that enable analog (500/2500 type) telephones to access certain telephone features. Refer to the Flexible Feature Code feature module in this guide.
- Security code
You must enter the security code before a telephone can be moved.
- Identification code
The identification code is user selectable, and can be any four-digit number (excluding the symbols * and #). (MTR does not require this code.)

This feature is also used to install and enable line cards to make unused telephone locations available for telephone relocation. Adding the first telephone on a line card by using the Service Change overlay enables that card (if it is not already enabled). Removing the last telephone from a line card leaves that card enabled; it does not disable the card.

Automatic Set Relocation (ASR) requires the circuit units on SL-1 and digital line cards used for supplementary power to be specified as power units in LD 12. This allows the Meridian 1 system to disable signaling to these units, while leaving unequipped units enabled for telephone relocation. If power units are not specified, they generate erroneous messages and may disable the entire card.

After putting a telephone back into service, the craftsman should wait at least 20 seconds before using the telephone.

Modular Telephone Relocation (X11 Release 18 and later)

Modular Telephone Relocation enhances ASR to make relocating Meridian Modular Telephones simpler and faster (by omitting the requirement for an identification code). The following telephones support Modular Terminal Relocation:

- M2006
- M2008
- M2016S
- M2216
- M2616

When a telephone is relocated out, a relocation block is automatically built to store the relocation information in the protected data area. The relocation block includes the old Terminal Number (TN), the terminal ID information, the serial number of the telephone, and feature information. If a data dump occurs, the relocation block is not copied to the disk.

Modular Telephone Relocation uses the unique serial number and terminal ID of the Meridian Modular Telephones (instead of the identification code) to identify the one being relocated. This reduces the number of steps needed for relocation.

A telephone's successful relocation is indicated by a 180-millisecond buzz through the telephone's loudspeaker, not a tone through the handset. The buzz occurs after the telephone is plugged into the new location, and the parameter download to the Meridian Modular Terminal is complete.

Modifying the relocation table

The relocation table contains information regarding the telephone's serial number, Terminal Number, and terminal identification. When a telephone is relocated OUT, the table maintains the necessary telephone information. When the telephone is relocated IN, the Meridian searches the table for that telephone's information. When the information is found, the data is moved to the new location. The telephone data is then removed from the relocation table.

Through LD 50, the serial number or any terminal ID information may be modified while the telephone is relocated out (before it has been relocated back in). For example, use LD 50 when replacing a telephone with another one of the same type with a different serial number or terminal ID, but the same key configuration.

LD 21 prints information about telephones that have been relocated out.

The IDU (ID for Unit) command in LD 32 determines the telephone's serial number and ID information.

Operating parameters

A single-line telephone must be relocated to a vacant position on a PBX (500/2500) Line Card.

An SL-1 telephone must be relocated to a vacant position on an SL-1 Line Card. A digital telephone must be relocated to a vacant position on a Digital Line Card (DLC) or Integrated Services Digital Line Card (ISDLC) in the switch.

An Add-on Data Module (ADM) must be relocated to a vacant data port on a QPC311 Data Line Card. A collocated SL-1 telephone and ADM must be relocated to a vacant voice and data port combination on a QPC311 Data Line Card.

Moving a telephone from an off-premise to on-premise location or vice versa is not recommended as incorrect pad values on connections may result.

A Manual Line telephone cannot be relocated using the Automatic Set Relocation feature.

The relocation table allows a maximum of 32 telephones to be relocated out at one time.

A relocated out telephone cannot be relocated in to an already defined TN. A telephone being relocated in must be plugged into a TN location that currently has no assigned telephone information.

Automatic Call Distribution (ACD) agent telephones with an associated supervisor and the ACD supervisor telephones cannot be relocated.

If a data dump occurs while a telephone is relocated out, a SYSLOAD returns the telephone to its original TN location. If a telephone was in the relocated out state when the last data dump occurred, and has since relocated in, another data dump is necessary. The second data dump prevents a SYSLOAD from returning the telephone to its previous TN location.

When Modular Telephone Relocation is used and the overflow tone is returned during relocation out, the relocation attempt is abandoned. Try the relocation again.

When Modular Telephone Relocation is used, there is a slight delay between the time the telephone is plugged in and the buzz. The buzz occurs after the telephone is relocated in, enabled, and downloaded. This delay is traffic dependent. If no buzz is received, the relocation is unsuccessful.

When Modular Telephone Relocation is used and a telephone is relocated out, a Customer Service Change (CSC) message containing the old TN number, serial number, and terminal ID is displayed on the TTY. When a telephone is relocated in, a CSC message containing the old TN and new TN is displayed. These messages are placed in the History File.

When Modular Telephone Relocation is used and a SYSLOAD occurs before a data dump completes, the data for all telephones relocated in or out is lost. Return the telephones to their original location and repeat the relocation process.

Feature interactions

Automatic Redial

If the calling party's set is relocated, the Automatic Redial request is cancelled.

Call Forward No Answer Hunting

Calls will not hunt or forward no answer to a telephone that is being relocated.

Call Forward Ring Again

If Call Forward, or Ring Again is active when a telephone is relocated, the feature is deactivated.

China – Flexible Feature Codes - Busy Number Redial

Busy Number Redial is deactivated when a set is relocated.

Hunting

Calls will not hunt to a telephone that is being relocated

Make Set Busy

If Make Set Busy is active when the telephone is relocated, Make Set Busy remains active.

Meridian Mail Voice Mailbox Administration

Relocating a user with an associated VMB to a new TN will not affect the VMB. The VMB remains logged in and continues to receive incoming voice messages while the telephone is being relocated.

A telephone that is relocated out but not relocated back in can still have an active VMB. A relocated telephone must be deleted manually on the Meridian 1 before its associated VMB is removed.

Multiple Appearance DN Redirection Prime

The original Multiple Appearance Directory Number Redirection Prime (MARP) TN is restored when the telephone relocates.

When Automatic Set Relocation or Meridian Modular Terminal is used to move a telephone, the telephone's MARP designations are maintained. If the TN is a MARP for one or more DNs, the system maintains the MARP TN. A system message indicates the telephone relocation.

When a set leaves the system due to set relocation, the following CSC message appears:

CSC010 x y
x = old TN (l s c u) for the telephone
y = ID code entered

While the telephone is being relocated, a temporary MARP TN is assigned. The following SCH message appears for each DN associated to the removed MARP TN.

SCH5524 DN nnnn NEW MARP l s c u
nnnn = the DN associated with the MARP TN
l s c u = the new default MARP for DN nnnn

The same message given through Attendant Administration displays on the Attendant Console when a MARP is assigned for a DN. The History File can be configured to store these messages until a printout is requested.

When a telephone reenters the system, the following message appears:

CSC011 x y
x = old TN (l s c u) for the telephone
y = new TN (l s c u) for the telephone

The following message appears again for *each* changed TN:

SCH5524 DN nnnn NEW MARP l s c u
nnnn = the DN associated with the MARP TN
l s c u = the new MARP TN assigned to DN nnnn

Night Key for Direct Inward Dialing Digit Manipulation

Delete the DRC key from a telephone before performing Automatic Set Relocation. If this is not done, the DRC lamp is activated on the wrong telephone.

Power Fail Transfer

Since Power Fail Transfer is hardwired to certain Terminal Numbers, this feature is not maintained by a telephone when it is relocated.

Feature packaging

Automatic Set Relocation (ASR) package 53 has no feature package dependencies.

Modular Telephone Relocation requires the following:

- Automatic Set Relocation (ASR) package 53
- Meridian Modular Terminals (ARIE) package 170
- Digital telephones (DSET) package 88

Feature implementation

LD 15 – Assign Automatic Set Relocation security code.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB FTR	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- SRCD	xxxx <CR> X	Automatic Set Relocation security code; default is 0000; X removes security code.

LD 10 – Enable/disable line circuits for Automatic Set Relocation.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CARD	500/2500 line circuit for Automatic Set Relocation.
TN	l s c u c u	Terminal Number. For Option 11C.

LD 11 – Enable/disable line circuits for Automatic Set Relocation.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CARD	SL-1 or digital line circuit for Automatic Set Relocation.
TN	l s c u c u	Terminal Number. For Option 11C.

LD 12 – Gather data for each SL-1 line circuit to be used as a supplementary power source.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	PWR	SL-1 line circuit for supplementary power.
TN	l s c u c u	Terminal Number. For Option 11C.

LD 17 – Allow ASR messages to be printed at a system terminal or stored in the History File.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CFN ADAN	Configuration Record. Release 19 gate opener.
IOTB	(NO) YES	(Do not) change input/output terminals or devices.
HIST	(0)-65534	History File buffer length.
- ADAN	NEW CHG aaa x	System terminal device number for Automatic Set Relocation messages. aaa and x = HST. PRT 0-15. TTY 0-15.

- USER	CSC	Customer service change (Automatic Set Relocation) messages.
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LD 17 – Allow Automatic Set Relocation messages to be printed at a system terminal or stored in the History File with X11 Release 18 or later.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CFN ADAN	Configuration Record. Release 19 gate opener.
- ADAN	NEW CHG aaa x	System terminal device number for Automatic Set Relocation messages. aaa and x = HST. PRT 0-15. TTY 0-15.
- CTYP	aaaa	Card type, where: aaaa = DCHI, MSDI, MSPS, SDI, SDI2, SDI4, or XSDI.
- DNUM	(0-15)	Device number printed automatically (same as ADAN number).
- USER	CSC	Customer service change (Automatic Set Relocation) messages.
CUST	0-99 0-31	Customer number. For Option 11C.

LD 32 – Query information regarding a terminal's type, NT code, color, release number, and unique serial number. This command works only for Meridian Modular Terminals with X11 Release 18 and later.

IDU l s c u	Prints telephone's information.
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LD 50 – Remove an entry in the relocation table with X11 Release 18 or later.

Prompt	Response	Description
REQ	OUT CHG	Remove, or change an entry in the relocation table.
TYPE	MTRT	Modular Telephone Relocation Table.
TN	l s c u c u	Terminal Number. For Option 11C.
SER	xxxxxx	Serial number (prompted for changes only).
NTCD	xxxxxxx	NT code (for changes only).
COLR	xx	Color (prompted for changes only).
RLS	xx	Release (prompted for changes only).

LD 21 – Print information in the relocation table.

Prompt	Response	Description
REQ	PRT	Print.
TYPE	SRDT	Set relocation data.

Feature operation

Automatic Set Relocation

To use Automatic Set Relocation:

- 1** Lift the handset.
- 2** Enter the relocation code (either SPRE 81 or the Flexible Feature Code).
- 3** Enter the security code. With X11 Release 19 and later, a security code is required. The default is 0000.
- 4** Enter the four-digit code to identify your telephone. A tone confirms the telephone is ready to be moved.
- 5** Unplug the telephone and install it at the new location.
- 6** Wait 30 seconds after plugging the set into the new location, lift the handset, and dial the four-digit identifier. A tone confirms the telephone has been moved successfully.

Modular Telephone Relocation

To relocate a telephone using Modular Telephone Relocation:

- 1** Lift the handset or activate handsfree.
- 2** Enter the relocation code (either SPRE 81 or the Flexible Feature Code).
- 3** Enter the security code. With X11 Release 19 and later, a security code is required. The default is 0000.
- 4** A two-second tone burst confirms that the telephone is relocated out.
- 5** Unplug the telephone and install it at the new location.
- 6** The confirmation buzz through the telephone's loudspeaker indicates the telephone is in service.

Note: All calls associated with the telephone receive force disconnect while it is relocated out. The telephone information automatically moves to the relocation table.

Automatic Redial

Automatic Redial (ARDL) extends the redialing capabilities of the Ring Again and Network Ring Again features. The redialing capabilities of this feature reside at the system level. The system generates redialing attempts that allow the calling party to redial a busy public network subscriber using analog or digital trunks.

This feature is applicable when a calling party dials a public network subscriber number and receives a busy indication. Instead of attempting repeated redial efforts, the calling party can activate ARDL by pressing the Ring Again (RGA) key.

Once activated, the ARDL feature requests the Meridian 1 to automatically redial the attempted dialed number until a successful call termination is completed or until the configured number of redial attempts is reached. A successful call termination is determined when one of the following occurs: a tone detector attached to the call detects a ringback tone, an answer signal is received or an ISDN signaling trunk indicates call termination.

When a successful call termination is detected from the far end, the calling party hears the called party through the set's loudspeaker. The calling party must accept the redialed call within a specified time limit. If not, the redialed call is dropped and not redialed.

Multi-Automatic Redial permits simultaneous activation of the Automatic Redial feature on several RGA keys. This allows more than one number to be redialed in succession. Each Automatic Redial call is attempted once and then another number is attempted. Multi-ARDL numbers are dialed in order of activation.

One set of ARDL calls can be associated with one DN key. Another set of ARDL calls can be associated with a different DN key. This option facilitates the use of ARDL feature by a secretary who works for several managers. Each manager's DN could be on the secretary's set. A secretary activates the ARDL feature to call different calling groups on both DNs. After a successful call termination, the accepted call is easily accessed by the appropriate manager.

All ARDL requests are associated with the calling party's DN key. Therefore, when the called party is being redialed the calling party's DN key is busy. If the calling party is busy on another DN, the ARDL attempts are redialed on hold. When a successful call termination is completed, the Meridian 1 alerts the calling party by buzzing the set. While ARDL is activated, the calling party's set can be used for incoming/outgoing calls.

ARDL can be activated on a call that has originated from a Single Call Ringing (SCR), Single Call Non Ringing (SCN), Multiple Call Ringing (MCR), Multiple Call Non Ringing (MCN), Private Line key or Hot Line key. The ARDL request is associated with the key from which the call was made. If this key is free, the system attempts to dial the number until a successful call termination is detected and provided a free trunk is available.

Operating parameters

The Ring Again feature must be enabled to operate the ARDL feature.

This feature is only supported on Central Office (CO) and TIE trunks.

The ARDL is supported on Meridian 1 proprietary sets, excluding the M3000 and M2317 sets. It is recommended that sets be equipped with display, handsfree and loudspeaker. Analog (500/2500) type sets do not support this feature.

The ARDL feature cannot be activated on data calls.

ARDL can only redial if the Directory Number (DN) key on the calling party's set is idle. For this feature application, only a single external number can be stored against the Ring Again key.

Network Ring Again features do not interfere with the ARDL feature. ARDL is only activated after all Network Ring Again attempts have failed. When ARDL is activated, redial attempts continue with the ARDL feature. ARDL does not support the failure of a DPNSS1 call attempt.

The ARDL feature does not impact the operation of the Ring Again feature on internal calls.

The tone detector is not allocated to detect non-busy tones for off network trunks that have on-board busy tone detectors such as an Extended Flexible Central Office Trunk (XFCOT). Only a busy tone is detected. Accordingly, an Automatic Redial call is considered a successful call even though an overflow tone is sent from the far end.

With the exception of trunks that have on-board busy detectors or an end-to-end Integrated Services Digital Network (ISDN) call, a tone detector is required for all ARDL calls.

If a trunk is not equipped with answer supervision, an ARDL call is redialed once only and then the redial request is cancelled.

The busy tone detector capability is limited to the current tone detector hardware.

This feature introduces the following three timers that control the operation of ARDL:

- The Automatic Redial Acceptance Timer is the maximum allotted time that the calling party has to respond to an ARDL call.
- The Automatic Redial Retry Timer controls the time between successive ARDL retries.
- The Tone Detector Response Timer controls the tone detector response and is defined in LD 16.

Feature interactions

Access Restrictions

Trunk Group Access Restrictions

The Access Restriction/Trunk Group Access Restrictions of an ARDL redialed call are those restrictions that were applied when the call was initiated. These initial restrictions are not changed.

Attendant Barge-In

Attendant Barge In is not allowed to a trunk that is currently used for the ARDL call redialing. This is done to avoid creating a conference when the tone detector is involved.

Attendant Break-In

Attendant Busy Verify

Attendant Break-In and Attendant Busy Verify are not permitted on a Meridian 1 proprietary set that is used for an ARDL call. These restrictions avoid creating a conference when the tone detector is involved in the call.

Attendant Blocking of Directory Number

An ARDL redialed call is blocked from the calling party if an attendant uses the Attendant Blocking of Directory Number feature on the calling party's DN.

Attendant Recall

Call Park

Call Transfer

Conference

No Hold Conference

Privacy Release

When an Automatic Redial (ARDL) call is not accepted by the calling party, the following keys are ignored if pressed: Attendant Recall (ARC), Call Park (PRK), Call Transfer (TRN), Conference (A03 or A06), No Hold Conference (NHC) and Privacy Release (PRS).

Autodial

ARDL can be activated on a dialed number using the Autodial (ADL) key.

Automatic Line Selection

Manual Line Selection, Outgoing Line Selection or Prime Line Selection is interpreted as accepting the ARDL by the calling party.

Automatic Preselection of Prime Directory Number

If a call is processed on key 0 and the calling party lifts the handset and selects the Prime Directory Number (PDN), this is interpreted as accepting a redialed call.

Automatic Set Relocation

If the calling party's set is relocated, the ARDL request is cancelled.

Call Detail Recording

The calling party's DN is charged even though a call is not accepted. This occurs because the resources are booked for ARDL attempts.

If Call Detail Recording (CDR) is configured on external calls, additional CDR records are produced. This occurs because each redial attempt produces a CDR record.

Calling Party Privacy

The calling party and called party have the same Calling Party Privacy considerations.

Digit Display

Dialed numbers are displayed when the ARDL feature is activated. The calling party can dial digits even though a busy tone indication is given.

Digits dialed while on hold are not displayed. When the calling party accepts a redialed call, the dialed numbers are displayed. If the Display (DSP) key and appropriate RGA key are pressed while a call is on hold, the number redialed is displayed.

Directory Number - Multiple Appearance

An ARDL call from a Single Call Ringing (SCR) or Single Call Non Ringing (SCN) is only redialed when all sets that have the same DN are free.

An ARDL call from a Multiple Call Ringing (MCR) or Multiple Call Non Ringing (MCN) is only redialed when the originating key is free.

Enhanced Hot Line

An ARDL call can be activated from an Enhanced Hot Line key. However, the call is only redialed when the calling party's HOT key is free.

Last Number Redial

An ARDL call can be activated on a number dialed using the Last Number Redial (LNK) key or by pressing the DN key twice. The ARDL number is saved as the last number redialed.

Line Load Control

ARDL attempts are controlled and restricted by Line Load Control.

Network Alternate Route Selection

Network Speed Call

ARDL can be activated on a Network Alternate Route Selection DN or Network Speed Call.

New Flexible Code Restriction

ARDL calls must pass New Flexible Code Restriction (NFCR) checks. If the redialed number is restricted, the ARDL request is cancelled.

Override

An ARDL call cannot be overridden. This is done to avoid creating a conference when a tone detector is involved.

Pretranslation

ARDL can be activated on a number that has passed the Pretranslation process. However, on an ARDL call the Pretranslation process is not used.

Privacy

If the ARDL call is redialed on a number that is shared with any single line telephone, the ARDL call is accepted when the single line telephone goes off-hook.

Privacy Override

When the Privacy Override feature is activated on the MADN key and the one set activates ARDL, this call can be accepted by other sets.

Private Line Service

ARDL call can be activated on a Private Line Service key. The call can only be redialed when the calling party's PVR or PVN key is free.

R2 Multifrequency Compelled Signaling

A successful ARDL call dialed through a R2 Multifrequency Compelled Signaling (MFC) trunk is determined by the tone detector (TDET) and MFC. If MFC signaling detects that the call has failed, the ARDL call is cancelled in the same manner as a TDET. If R2 MFC does not detect a call failure a TDET is connected to the call as a regular ARDL call.

Scheduled Access Restrictions

The Scheduled Access Restrictions (SAR) on ARDL redialed calls are set when the call is initiated. If restrictions are changed later, the prior restrictions still apply.

Speed Call**System Speed Call****Stored Number Redial**

The Automatic Redial (ARDL) feature can be activated on a call using Speed Call (SCL), System Speed Call (SSU/SSC) or Stored Number Redial (RDL) keys.

Speed Call on Private Lines

The ARDL feature is activated on a number dialed using the Private Line (PVR/PVN) key and then making a speed call by pressing the Speed Call (SCL) key.

Feature packaging

Automatic Redial (ARDL) requires the following packages:

- Automatic Redial (ARDL) package 304
- Ring Again (RGA) package 1
- Tone Detector (TDET) package 65

Outpulsing of Asterisk and Octothorpe (OPAO) package 104 and Automatic Redial (ARDL) package 304 are mutually exclusive. The ARDL package is turned off automatically if both packages are equipped.

Feature implementation

LD 13 – Define Tone Detector Units.

Prompt	Response	Description
REQ	NEW	Add new data.
TYPE	TDET	Tone Detector data block.
TN	l s c u c u	Terminal Number. For Option 11C.

LD 15 – Define Automatic Redial.

Prompt	Response	Description
REQ:	CHG	Change existing data.
TYPE:	FTR	Change features and options.
CUST	xx	Customer number.
...		
-ARDL_ATTEMPT	1-(30)-60	Number of Automatic Redial attempts.
REQ:	CHG	Change.
TYPE:	TIM	Change Timers.
CUST	xx	Customer number.
...		
- ARDL_ACCEPT	0-(20)-60	Automatic Redial Acceptance Timer in seconds. Odd number entries are rounded up to the next even number and echoed back with a message.
- ARDL_RETRY	10-(30)-60	Automatic Redial Retry Timer in seconds. Odd number entries are rounded up to the next even number and echoed back with a message.

LD 16 – Define Automatic Redial Tone Detector Response Timer.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	RDB	Route Data Block.
CUST	xx	Customer number.
ROUT	0-511 0-127	Route number. For Option 11C.
...		
CNTL	YES	Changes to controls or timers.
TIMR	RTD 0-(12)-60	Tone Detector Response Timer in seconds. Odd number entries are rounded up to the next even number.

LD 87– Define Automatic Redial Network Route Selection.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
CUST	xx	Customer number.
FEAT	NCTL	Network Control Feature.
...		
NCOS	(0) - 99	Network Class of Service group number.
- ARDL	(A) I	A = Automatic Redial network route selection allowed from all route sets (initial and extended). I = Automatic Redial network route selection allowed from initial set of routes only.

LD 11 – Assign Automatic Redial Class of Service and Key.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2016, 2216, or 2616.
...		
CLS	RDLA	Automatic Redial allowed (default). RDLD = Automatic Redial denied.
KEY	xx RGA	Ring Again key assignment.
KEY	xx RGA	Ring Again key assignment for Multi-Automatic Redial capability.

Feature operation

Enabling Automatic Redial

- 1 Press an idle DN key, handsfree key or go off-hook. Dial desired public network number. The DN lamp is lit.
- 2 The calling party hears busy, overflow, ringback tone, etc.
- 3 Press the Ring Again (RGA) key.
 - For a non-ISDN call, the RGA key lamps lights, the tone stops and the DN lamp goes dark.
 - For ISDN call, the RGA key lamps initially flashes while the system attempts to activate the Network Ring Again features. If these features cannot be activated, the RGA lamp is steadily lit and the ARDL feature is activated.

Automatic Redialing - External Number

After ARDL is activated the following possibilities can occur:

- 1 The call is answered by the called party and accepted by the calling party. In this case, both parties are connected.
- 2 The call is answered by the called party, but the calling party does not accept the call within the predefined time limit. The call is dropped and not redialed again.
- 3 The called party's number is occupied. The call is dropped and redialed later according to the timer configuration.
- 4 The call is blocked for some reason such as trunks or network congestion. The call is dropped and redialed later according to the timer configuration.

If the calling party presses another DN key while ARDL is activated, the ARDL attempt continues redialed on hold. If the Release (RLS) key is pressed when an ARDL call is attempted and is the active call, the redial attempt is dropped and redialed later after the predefined allotted time.

Automatic Redial - Originating Telephone is Idle on Another Number

- 1 The calling party's DN is idle.
- 2 The RGA key lamp winks. The DN lamp is lit and the called number appears on the set's display. A connection is made to the loudspeaker of calling party's set.
- 3 One of the following occurs:
 - If the called party's number is busy, the call is dropped when a busy tone is detected. The DN goes dark, the RGA lamp is steadily lit and the loudspeaker is deactivated.
 - Otherwise, the calling party hears ringback or answer through the loudspeaker.
- 4 If the calling party accepts the call by going off-hook, pressing DN key or pressing the handsfree, both parties are connected and the RGA lamp goes dark.

- 5 If the calling party does not accept the call within the predefined time limit, the DN key goes dark and one of the following occurs:
 - If the called party answers the call the following occurs: the RGA key goes dark, the redial call is disconnected and the ARDL request is cancelled. The display returns to an idle state.
 - If the called party does not answer the call, the following occurs: the call disconnected and the RGA lamp is steadily lit. The ARDL request is not cancelled and is ready for another redial attempt. The display returns to an idle state.

Accepting an Automatic Redial Call

To accept an ARDL call, the calling party performs one of the following:

- 1 If the ARDL call is the active call on the set, then the calling party must lift handset, press handsfree or press the key on which the ARDL call is active; or
- 2 If the ARDL call is dialed on hold the calling party must press the associated DN key.

Cancelling Automatic Redial

Automatic Recall is canceled in the following cases:

- The calling party presses the lit or winking RGA key (the cancellation request can be activated between ARDL attempts or during a redial attempt).
- The calling party accepts the ARDL call.
- The ARDL call is redialed the predefined number of call retries.
- The calling party does not accept a successful ARDL call within the predefined time limit.

At cancellation of the ARDL request, the RGA key lamp goes dark.

Automatic Timed Reminders

Automatic Timed Reminders alert the attendant when a call extended to a station by the Attendant Console has not been answered within a predefined period of time. Recall timers for different conditions can be specified by the customer as follows:

- Slow Answer (set in increments of six seconds)
- Camp-On (set in increments of two seconds), and
- Call Waiting (set in increments of two seconds).

If no entry is made, the default is 30 seconds in each case.

Operating parameters

There are no feature requirements.

Feature interactions

Attendant Overflow Position

After an attendant call has been rerouted using the Attendant Overflow Position feature, there is no automatic timed recall to the attendant or any other DN.

Call Forward by Call Type

Calls eligible for Flexible Call Forward No Answer treatment, and handled by Call Forward by Call Type, use the Call Forward No Answer timer in the Customer Data Block as the recall timer for attendant extended calls. Irrespective of the relative timeout for Automatic Timed Recall, the ringing continues as long as allowed by the Call Forward No Answer Timer.

Call Forward No Answer

Call Forward No Answer Second Level

When Call Forward No Answer is activated on a telephone, the slow answer timer begins only after the call reaches its final destination.

Call Park

A Call Park recall to an attendant appears on the Recall Incoming Call Indicator.

Call Waiting Redirection

When Call Forward No Answer (CFNA) is active, the Slow Answer Recall timer begins only after the call reaches its final destination. CFNA has precedence over Attendant Recall for attendant-extended calls. Irrespective of the relative time-out intervals for each feature, ringing continues as long as allowed by CFNA for sets with CFNA enabled.

Since the Call Waiting Redirection feature applies CFNA treatment to a Call Waiting call, the Call Waiting Redirection feature also has precedence over the Call Waiting recall timer.

Directory Number Delayed Ringing (DNDR)

If a dialed set has DNDR defined, and an attendant re-extends a call without releasing it, the DNDR timing is not reset. If the value of the recall timer is less than that of the DNDR timer, the call is recalled to the attendant before audible notification begins.

Feature packaging

Automatic Timed Reminders is included in base X11 system software.

Feature implementation

LD 15 – Define Recall timers and add/change a Recall Incoming Call Indicator key on Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB TIM	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- RTIM	xxxx yyyy zzzz	Recall timers. xxxx = slow answer, 0-3,066, in six-second increments (default 30 seconds). yyyy = Camp-on, 0-1,022, in two-second increments (default 30 seconds). zzzz = Call Waiting, 0-1,022, in two-second (increments (default 30 seconds).
TYPE	ATT	Release 21 gate opener.
- ICI	0-19 RLL	Add RECALL ICI to all consoles.

Feature operation

One optional Recall Incoming Call Indicator (ICI) key is provided on the Attendant Console for operator-extended recalls.

Automatic Trunk Maintenance

The Automatic Trunk Maintenance (ATM) feature allows a system manager to monitor the transmission performance of specified trunk groups. The features also allow the Meridian 1 system to be programmed to automatically run scheduled transmission and supervision tests on specified trunk groups terminating at the Meridian 1. Maintenance reports test results to the system terminal and the Communication Management Center (CMC), if configured.

Automatic Trunk Maintenance programs can be run manually at any time, by loading the ATM diagnostic program (LD 92). ATM identifies trunks that fail any of the tests so that more rigorous tests can be performed manually using transmission test equipment. The system can be programmed to disable any of these flagged trunks, up to a configurable limit per trunk group, if they reach the programmable out-of-service threshold.

ATM tests the trunks and Digital Trunk Interface (DTI) channels in a specified group or groups, compares the measured and stored values, flags those trunks and DTI channels which fail any tests. ATM disables trunks and DTI channels that reach the specified out-of-service threshold.

The number of disabled trunks in a group is limited to a percentage of the total number of trunks in the group. The percentage is defined in the Automatic Trunk Maintenance data block in the Trunk Route Administration program (LD 16).

ATM provides the following data on trunk performance: far to near end measurements of loss and noise, near to far end measurement of loss and trunk connect and disconnect supervision.

The values measured in each test are compared with the thresholds stored in the ATM data block. The results of each test fall into one of the following ranges:

- result \geq maintenance limit
- maintenance limit < result \leq out-of-service limit
- result > out-of-service limit

The results of all the tests performed on each trunk determine the overall status of each trunk. Along with the measured values, the following classifications are reported in [Table 28](#).

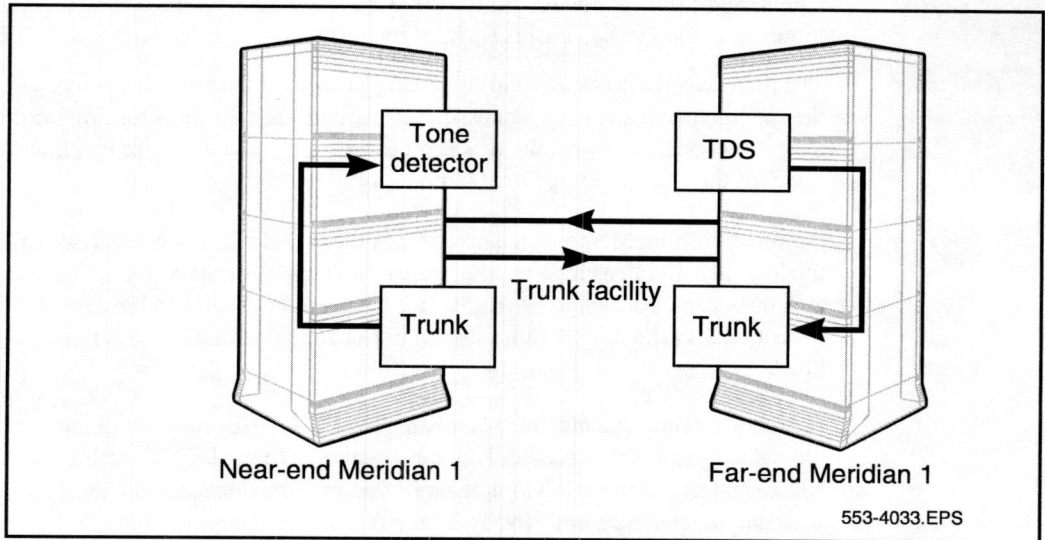
Table 28
Measured values and classifications of tests

PASS	trunk passed all transmission tests
FAIL*	at least one test exceeded the transmission maintenance limit
DSBL**	at least one test exceeded the out-of-service limit and the trunk has been automatically disabled
FAIL**	at least one test exceeded the out-of-service limit, but the trunk has not been disabled, because the number of trunks already disabled in the group has reached a percentage limit defined in the ATM data block

Far end to near end loss and noise measurement

As illustrated in [Figure 6](#), tests evaluate the far end to near end transmission loss and noise performance levels of the trunks against the standard assigned in the ATM data block for each trunk. The test also chooses the reference trunk required in the near end to far end tests.

Figure 6
Far end to near end noise measurement



Automatic Trunk Maintenance (ATM) measures and stores

- the dB loss of a nominal 1000 Hz tone transmitted from the far end
- the noise level, in dB_{rn}, of a silent termination from the far end (only if a Meridian 1 standard 100 test line is attached)

With ATM running, the near end Meridian 1

- seizes the trunk or DTI channel being tested

- outpulses the DN of the far end 100 test line or equivalent test line (the 100 test line returns 1020 Hz tone for 5.5 s, followed by silent termination; the nonstandard test line returns nominal 1000 Hz tone only)
- attaches a near end tone detector and tests its integrity in Modes 1, 3 and 4. Refer to *QPC422 Tone Detector Card description*.

The tone detector determines that the connection between the far end and near end is established and that nominal 1000 Hz test tone is returned. The test is terminated and marked unsuccessful if the test tone is not detected.

The tone detector measures and stores the dB level of the transmitted tone (if the far end test line is not a standard 100 test line, the tone detector times out after 7 seconds and stores the loss level in software) and the noise level, in dBrn, of the circuit during silent termination.

Automatic Trunk Maintenance determines the actual measured loss (AML); the loss algorithm ensures that the proper pad values for the trunk under test are considered. As well as the difference between the AML and the expected measured loss (EML); EML is defined in LD 16 and stored in the ATM data block.

Automatic Trunk Maintenance compares the EML/AML result with the maintenance limit (LMNL) and the out-of-service limit (LOUT) defined in LD 16 and stored in the ATM data block and the actual measured noise level with the maintenance limit (NMNL) and out-of-service limit (NOUT) defined in LD 16 and stored in the ATM data block.

Automatic Trunk Maintenance flags trunks or Digital Trunk Interface (DTI) channels whose loss deviations from expected measured loss (EML) exceed maintenance, or out-of-service levels, or both.

ATM software disables trunks and DTI channels at the near end Meridian 1 during scheduled automatic trunk testing, provided the following conditions exist:

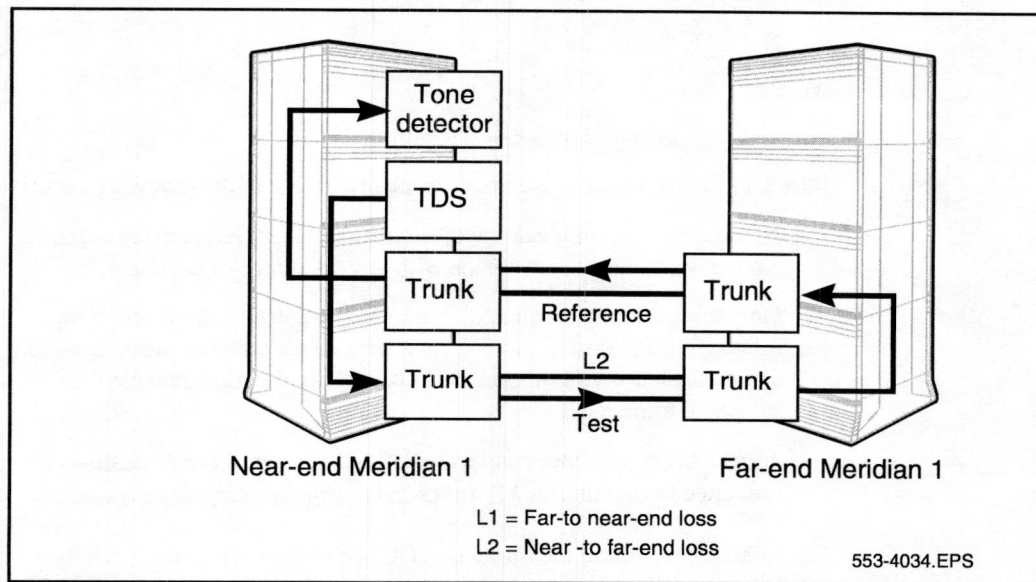
- the test results exceed the transmission out-of-service limits
- the percentage of disabled trunks in the trunk group has not been reached. The percentage is the DSBL value programmed in the ATM database

ATM software sends the test results to the system terminal and/or to a Communication Management Center (CMC) facility, if configured.

Near end to far end loss measurements

As shown in [Figure 7](#), this test evaluates the near end to far end transmission loss performance levels of the testing trunks, against standard values, assigned in the ATM data block for each trunk. The test uses a loop-around test termination, at the far end, and a reference trunk or Digital Trunk Interface (DTI) channel. The loss of the channel is known and it belongs to the same trunk group as the trunks being tested.

Figure 7
Near end to far end measurements



Choosing a reference trunk

ATM uses the far end to near end tests, described previously, to choose the reference trunk required to perform the near end to far end measurements. By definition, a reference trunk is a trunk or Digital Trunk Interface (DTI) channel with a far end to near end loss (AML) that satisfies the following:

$$EML - LMNL \leq AML \leq EML + LMNL$$

where:

AML = the actual measured loss of the reference trunk

EML = the expected measured loss

LMNL = the loss maintenance limit

and a noise level N, which satisfies following:

$$N < NOUT$$

where:

NOUT = the noise out-of-service limit

Based on the measurements within a trunk group, one of the following occurs:

- No reference trunks are defined. No trunks fit the reference trunk criteria. No measurements can be made with any assurance of accuracy.
- Only one reference trunk is defined. Only one trunk in the group fits reference trunk criteria. In this case, near-to-far end loss measurements can be made for all trunks or DTI channels in the trunk, except the reference trunk itself.
- Two or more reference trunks are defined. Two or more trunks fit reference trunk criteria. All trunks in the trunk group can be tested.

The trunk whose actual measured loss (AML) is closest to the expected measured loss (EML) is chosen (if it is available at the time). When ATM is used in the manual mode, the first trunk in the route found to satisfy reference trunk criteria is chosen.

Setting up the near end to far end test

ATM does the following:

- seizes the chosen reference trunk, outpulses the reference loop-around DN and attaches a tone detector, in Mode 1 (to detect a far end busy indication, if the loop-around DN is unavailable)
- seizes the first test trunk, outpulses the reference loop-around DN, and attaches a tone detector, in Mode 1 (to detect a far end busy indication if the loop-around DN is unavailable)

The reference and test trunks are automatically connected at the far end, and loop-around measurements can be made.

Near end to far end loss measurements on the reference trunk

If two or more trunks in the group meet reference trunk criteria, valid test data is stored as follows:

- ATM attaches a TDS to the first reference trunk and sends a 1020 Hz tone.
- ATM attaches a tone detector, in Mode 4, to the second reference trunk.
- ATM records the total loss on the loop and computes the near end to far end loss on the reference trunk. If ATM times out without an indication of a tone from the tone detector, excessive near end to far end loss on the reference trunk is indicated.

Near end to far end loss measurements on the test trunk

ATM completes the following:

- attaches a tone and digit switch (TDS) to the test trunk and sends a 1020 Hz tone
- attaches a tone detector, in Mode 4, to the reference trunk
- records the total loss on the loop and computes the near end to far end loss on the test trunk. If ATM times out without an indication of tone from the tone detector, excessive near end to far end loss on the test trunk is indicated

Near end to far end loss measurements on the next test trunk

Using the same reference trunk, ATM seizes and tests each trunk in the group. When all trunks scheduled for testing have been examined, the results are sent to the system terminal and/or, to the Communication Management Center (CMC).

ATM seizes the next test trunk, outpulses the test loop-around DN and attaches a tone detector, in Mode 1. This is completed to detect far end busy indication, if the loop-around DN is unavailable.

The reference and next test trunk are automatically connected at the far end. Near-to-far measurements can be made for test trunks, as described previously in the section "Near end to far end loss measurements on the test trunk".

Operating parameters

Near end Meridian 1

The following hardware at the near end Meridian 1 is required: a tone and digit switch (TDS) card, such as QPC197, QPC251 or QPC609, is used to provide a 1020 Hz tone and a silent termination and a tone detector card to test loss and noise levels.

Far end PBX

The far end PBX must be equipped with the following:

- Meridian 1-compatible source of nominal 1000 Hz tone (a far end Meridian 1 requires either a QPC197, QPC251, or QPC609 TDS card)
- Meridian 1-compatible loop-around facilities if near end to far end loss tests are to be done.
- A Meridian 1 must be equipped with the 100 and loop-around test facilities if full ATM capability is to be supported.
- Meridian 1-compatible loop-around facility at the far end will permit ATM near-to-far testing (non-Meridian 1/SL-100 sites).

Three active modes for the tone detector are used by the Automatic Trunk Maintenance (ATM) feature. In Mode 1 the tone detector listens for and reports the type of tone detected, such as ringback, busy, overflow or unidentified tone. In Mode 3, the tone detector listens for 1020 Hz tone (nominal 1000 Hz) followed by silent termination and reports the loss and noise levels. In Mode 4, the tone detector listens for and reports the presence of 1020 Hz tone (nominal 1000 Hz).

ATM can be stopped at any time to load another overlay program. ATM disconnects any trunks seized, but does not provide a report of any collected results.

ATM will not test a route with far end disconnect controls (FEDC) set to far end control. ATM requires that the far end test line respond to a near end disconnect by returning a disconnect signal. If FEDC for a route is set to far end control, this response will not occur until the far end forces a disconnect.

ATM testing to a far end Meridian 1 should not be performed on trunks which have Called Party Disconnect Control (CPDC). The test line does not respond to a disconnect from the ATM feature.

ATM supports testing on TIE, Wide Area Telephone Service (WATS), CSA, Central Office Trunk (COT), and Foreign Exchange (FEX) trunk types only.

When a seizure attempt by ATM fails because the trunk is busy, no attempt to re seize the trunk is made. For this reason, test results may be available in one direction but not the other.

Far end test facilities must be compatible with Meridian 1 test lines with respect to disconnection. The far end must respond to near end disconnect by releasing the test trunk toward the originating end immediately.

The far end PBX must support precise tone plan frequencies for call progress tones.

If an ATM test is unable to begin execution within its scheduled hour because another program is in the overlay area, the test is executed later when the overlay area becomes available within the scheduled hour. In any case, it is recommended to schedule the ATM tests so that they do not run when heavy use of the overlay area by other programs, such as midnight routines, is expected. Testing of large trunk groups should be made so that one set of measurements does not run past the starting time of another set.

ATM and traffic data may become intermixed if both are sent to the same system terminal. Where possible, this data should be routed to different terminals.

ATM measurements are performed on a trunk group basis. If more than one trunk route exists between the Meridian 1 and a far end switch, each will have separate measurement reports.

Feature interactions

Barge-In

Barge-In to a particular trunk is denied during scheduled or manual ATM testing. When attempted, overflow tone is returned to the attendant.

Traffic

To avoid interactions between traffic and ATM report outputs, scheduled ATM tests are performed 15 minutes past the hour specified in the Schedule data block (LD 16). Manual and automatic ATM trunk seizures are recorded on traffic peg counts.

Electronic Switched Network (ESN) signaling

ATM is not intended to test tandem connections through ESN switches. The Network Class-of-Service (NCOS) value associated with the test call is not important. Therefore, the NCOS value of the trunk under test is used.

Electronic Tandem Network (ETN) signaling

Test calls to ETN switches are treated in the same way as TIE trunk calls.

History File

ATM reports are classified as maintenance messages and are stored in the History File.

Digital Trunk Interface

ATM measures transmission performance on DTI trunks but not DTI connections to an SL-Server.

Call Detail Recording

There is no originating telephone on an ATM call. Therefore, Call Detail Recording (CDR) records for ORIGITYPE and ORGID equal TERTYPE and TERID. TERID contains the trunk route and member number of the trunk of the outgoing call.

Feature packaging

A Meridian 1 at the far end must have at least Generic X11 Release 2 software for the 100 and loop-around test requirements, in order for the full ATM feature to be supported

Feature implementation

ATM data blocks and schedules are printed in LD 21

Memory Management (for ATM) is programmed in LD 29.

LD 16 – Add, change or remove an ATM Route data block,

Prompt	Response	Description
REQ	NEW CHG OUT	Add, change, or remove.
TYPE	ATM	ATM Data Block.
CUST	xx	Customer Number.
ROUT	0-511 0-127	Route Number. For Option 11C.
T100	n...n	T100 test line DN (2-10 digits).
PADT	0-63	Pad factor for the far-to-near end loss measurement.
STND	(YES) NO	Test line is a standard T100 test line.
NMNL	27-90	Noise Maintenance Limit (prompted if response to STND is "YES").

NOUT	27-90	Noise out of service limit (Prompted if response to STND is "YES").
NTOF	(YES) NO	Near- to- Far measurement tests are required.
REF	n...n	Reference loop around DN, range is 2 to 10 digits (Prompted if the response to NTOF is "YES").
TST	n...n	Test loop around DN (Prompted if the response to NTOF is "YES").
PADL	0-63	Pad factor for loop around (Prompted if the response to NTOF is "YES").
EML	0-15	Expected Measured Loss.
LMNL	0-15	Loss Deviation Maintenance Limit.
LOUT	0-15	Loss out-of-service Deviation Limit.
DSBL	(0)-100	Percentage of trunks to be disabled.
MXTI	0-(5)-15	Maximum Time (in seconds).

LD 16– Add, change or remove the ATM test schedule start times.

Prompt	Response	Description
REQ	NEW CHG OUT	Add, change, or remove.
TYPE	SCH	Schedule Data Block.
CUST	xx	Customer Number.
HOURL	0-23	Hour to start ATM test.
	<CR>	REQ is prompted again.
ROUT	0-511	Route Number.
	X0-X511	Delete a Route Number. HOURL is prompted again.

Feature operation

No specific operating procedures are required to use this feature.

Introduced in X11 Release:	All
Networking:	No

Automatic Wake Up

Automatic Wake Up (AWU) provides an efficient wake up service for hospitality and health care environments. It relieves the attendant from having to make wake up calls by providing this service automatically. At the requested time, the system automatically rings the room or extension and connects the called party upon answer to music followed by a recorded wake up announcement.

If the wake up call is answered within a customer-specified number of rings (two to five with X11 Release 15 and later, five rings with X11 Release 14 and earlier), the system recognizes a completed call and presents the predefined wake up treatment. The system disconnects the AWU call when the called party releases, or when the recording cycle is completed.

The wake up message runs continuously. Upon answering a wake up call, the called party hears music until the message begins again. If the message is 15 seconds long, and the wake up call is answered on the 14th second of the message, the calling party hears one second of music before the message; if the call is answered on the third second of the message, the calling party hears 12 seconds of music first.

The system allows for an alternate recording that can be used for evening wake up calls or when the primary recording is being updated. The secondary recording can also replace the primary recording at a customer-specified time period.

Answering the wake up call

The Wake Up indicator goes dark after the guest answers the wake up call. In X11 Release 16 and later, customers can set the attendant recall option if the call is unanswered after a specified number of tries (from one to three).

Answering the wake up call for multiple appearance DN telephones is similar to single appearance DN telephones: after the call is answered, the Wake Up indicator goes dark.

The system balances the wake up load over five-minute intervals, generating a maximum of 100 wake up calls per five-minute period. The system processes one wake up call every two seconds during peak periods, and one wake up call every four seconds during lighter periods. A light load is defined as anything less than 60 wake up call requests per five-minute interval.

A wake up request is rejected by the system under the following conditions:

- The wake up request (in units of five-minute intervals) is less than one interval ahead of the current time interval (see Note).
- The wake up request (in units of five-minute intervals) is less than five intervals before the current time interval. In other words, the wake up request is more than 23 hours and eight intervals in advance.
- The interval requested contains 100 calls already (or 500 calls with X11 Release 15 and later for XT, NT, and RT machines, and system Options 51, 61, 71, and 81).

Note: The time interval = (hour x 12) + (minute / 5). Always round down to the nearest five-minute interval.

If the interval requested for a wake-up call already contains the maximum number of calls, the system searches for the next available time interval in the following sequence:

- the five-minute interval before the requested time
- the five-minute interval after the requested time
- the next available five-minute interval within three hours before the requested time

You can also use a Background Terminal (BGD) to enter Automatic Wake Up information. The Background Terminal lets you monitor system operation. One or more terminals may be assigned to access AWU data. You can have data displayed or printed at a preselected time of day.

500 Wake Up Calls, X11 Release 15

The number of Automatic Wake Up calls available per five-minute period increases to 500 calls for NT, RT, and XT machines and system Options 51, 61, 71, and 81. The number (100) remains the same for all other systems.

The feature enhancement also lets you define the number of rings for the call from two to five. If there is no answer after the specified number of rings, the AWU call overflows to the next five-minute interval. The system tries three times to terminate the call before it is recalled to the attendant. X11 Release 16 and higher software lets you define the number of wake up attempts, from one to three.

No more than 25 analog (500/2500 type) telephones should be ringing at any one time. To ensure this, set the Number of Rings for Wake Up (NRWU) prompt in LD 15 according to the recommendations listed in [Table 29](#). The NRWU is two to five, with a default of five.

Table 29
Recommended number of rings per Automatic Wake Up call

Time on (seconds)	Time off (seconds)	Maximum number of rings
2*	4*	5*
3	3	2
2	1	5
1	2	5
* North American standards		

Only 500 AWU calls can be defined for the system, but up to 750 calls can actually be placed. Up to half of the programmed AWU calls unanswered can be carried over to the next five-minute interval. The carry-over from one block to the next is important in limiting the number of calls in the original programmed interval.

For a complete description on programming AWU with the Background Terminal, please refer to *Background Terminal Facility description* (553-2311-316).

Guest Entry of Auto Wake Up (GEWU) Calls, X11 Release 16

GEWU provides entry of a wake up call from a room telephone. By using the Wake Up key (WUK) on the telephone, guests can program, query (with display), or cancel their own wake up calls based on a 24-hour time format.

Requests must be made on a daily basis since the wake up time is automatically canceled after each use.

GEWU does not alter the operation of AWU, but adds a new option to AWU programming. Unless otherwise specified, operating GEWU is the same regardless of whether the telephone has a display. The distinction is that with a display, guests can check their wake up call requests. A dash (–) indicates that no time has been programmed. In addition, when programming a wake up call, the system will search for and display the next available time if the time interval chosen for the wake up call is full. Without a display, the guest can still program and cancel a wake up call.

Note: For Multiple Appearance DN telephones, the wake up time for secondary DNs cannot be queried.

Multi-Language Wake Up (MLWU) Calls, X11 Release 16

MLWU provides Automatic Wake Up calls in any of up to six languages. You can use any language as long as you have a recording of it available on a Recorded Announcement (RAN) trunk.

At check-in, each guest can choose the language for wake up calls. If no language is assigned, the default language, Language 0, is used.

You can assign a language to a room's telephone at any time by using the Background Terminal (BGD) or Property Management System (PMS). A room DN is valid if it has at least one appearance as a Prime DN (key 0) on a telephone and Controlled Class of Service Allowed (CCSA). Multiple appearance telephones with the same Prime DN may be assigned different languages through Service Change.

You can also assign the language on a TN basis, allowing the language option to be employed outside the hospitality industry without requiring a BGD terminal or the PMS. Refer to LD 10 and LD 11 in the *X11 input/output guide* for the prompt "LANG".

The language remains unchanged until the next language assignment. An AWU language cannot be changed on a call-by-call basis. The customer may, however, optionally clear the language either at check-in or check-out times, using the Background Terminal.

If Automatic Wake Up is enabled, up to six pairs of language-specific RAN routes (both a.m. and p.m. for each language), called Automatic Wake Up routes (AWR), can be configured. The languages, 0-5, correspond to the AWR routes RAN1/RAN2 (for Language 0), LA11/LA12 (for Language 1), up to LA51/LA52 (for Language 5) in the Customer Data Block (LD 15). The only requirement is that the default language routes RAN1 and RAN2 for Language 0 must be defined. If a specific language AWR is not accessible at wake up time, the corresponding primary or secondary default language routes (RAN1 and RAN2) are used.

On a Background Terminal, a customer can define a two-character language identifier to reference the languages. For example, the customer may define Language 0 as EN (English), Language 1 as SP (Spanish), and Language 2 as GR (German). For details on implementing BGD terminal commands, refer to *Background Terminal Facility description* (553-2311-316).

Unanswered Automatic Wake Up calls recall to the attendant if the attendant recall option is on. Upon a recall, the room's language is displayed on the Attendant Console. On alphanumeric displays (M1250 or M2250 Attendant Consoles), the language identifier is displayed after the Call Party Name Display (CPND) fields. On digit displays (QCW Attendant Consoles), the language number (0-5) is displayed after the recalling DN field.

Multiple Wake Up Flexible Feature Codes

With X11 Release 20 or later, Multiple Wake Up allows up to four wake-up calls to be entered using a Flexible Feature Code (FFC), and allows those calls to be repeated daily, if desired, by entering a separate FFC. The time is in a four-digit 24-hour format (H1 H2 M1 M2). To activate Repeat Multiple Wake Up, the user dials "MWRA H1 H2 M1 M2".

Note: If a wake-up time has already been entered using the standard Automatic Wake Up Activate (AWUA) FFC, only three other multiple wake-up times may be entered.

To deactivate a single wake-up time, the user enters "MWUD H1 H2 M1 M2", where MWUD is the Multiple Wake Up Deactivate FFC. To deactivate all wake-up times, the user enters "MWUD#". The general Deactivate (DEAF) FFC does not apply to Multiple Wake Up.

If the MWUD FFC is entered again after all wake-up times have been deactivated, confirmation tone is given. If the MWUD FFC is entered again to deactivate a wake-up time that has been already deactivated, overflow tone is given. If an attempt is made to enter an existing wake-up time, confirmation tone is given. If an attempt is made to enter an existing wake-up time as a repeat wake-up time, then that time is activated as a repeat wake-up time. If an attempt is made to enter an existing repeat wake-up time as a single wake-up time, then that time is activated as a single wake-up time. In both cases, confirmation tone is given.

To verify a Multiple Wake Up time, the user dials "AWUV H1 H2 M1 M2" (where AWUV is the existing Verify Automatic Wake Up FFC).

Operating parameters

To operate AWU, a system must have a Background Terminal or Attendant Console with AWU key, room telephones with Controlled Class of Service Allowed (CCSA), and Recorded Announcement (RAN) trunks.

This feature requires a Background Terminal (BGD).

Each Automatic Wake route requires a minimum of two trunks.

The following hardware is required for the AWU feature:

- QPC74 RAN trunk interface card or NT8D14AH universal trunk card
- a continuous announcement (RAN) machine, such as the Audichron HQ-1 112

Systems with software earlier than X11 Release 15 require at least one dedicated conference circuit (loop and conference card) for the AWU feature. For X11 Release 15 and later software, a dedicated conference loop is no longer required for the network-enhanced machines.

For the call to utilize both music and a wake up announcement, an AWR route must be installed and the route must be programmed at the RANF prompt in LD 15. The music source can be wired into the audio pairs of the RAN trunk, or music can be recorded on the RAN device.

Automatic Wake Up is only allowed on a telephone's Prime Directory Number (PDN). For telephones in a multiple-appearance arrangement, all telephones are rung; however, only one wake up time may be assigned against the PDN. The system tries the wake up call a customer-defined number of times (from one to three with X11 Release 16 and later, three with X11 Release 15 and earlier), and then treats it as any other unanswered wake up call. In a single-call arrangement, if any appearance of the DN is busy when the wake up call is made, the wake up call is not presented. In a multiple-call arrangement, the wake up call is presented to all idle appearances.

A wake up key cannot be configured on a data station (a telephone with DTA Class of Service).

There can only be one wake up key per telephone.

Only Attendant Consoles can have an AWU key. X11 Release 16 and later releases allow the AWU time to be programmed on digital telephones (using GEWU and a Wake Up key).

Automatic Wake Up and Centralized Attendant Services (CAS) are mutually exclusive.

If the wake up call goes unanswered, or the guest hangs up before the AWU two-second hold time, the system tries the wake up call again in the next five-minute interval. If Attendant recall is enabled, the call transfers to the attendant following the last unsuccessful wake up call attempt.

Maintenance technicians can access any AWU RAN trunk or music trunk with the RAN trunk access code.

For Multiple Wake Up, the FFCs selected must be unique numbers up to seven digits long. They cannot conflict with any DN already in the dialing plan.

The following are not supported for Multiple Wake Up:

- The attendant query for the Multiple Wake Up time
- Multiple Wake Up from attendant administration
- The Background Terminal, Background Terminal Display for Multiple Wake Up
- Traffic for Multiple Wake Up

The Deactivate (DEAF) FFC is not supported for Multiple Wake Up.

Multiple Wake Up is supported only on analog (500/2500 type) telephones.

The Automatic Wake Up feature may be active at the same time as Multiple Wake Up.

If one Automatic Wake Up time has been set using the Automatic Wake Up Activate (AWUA) FFC, only three more Multiple Wake Up calls may be entered using the MWUA FFC.

Feature interactions

Attendant Administration

The Attendant Administration feature does not support data entry or changes for the AWU feature.

Attendant Overflow Position

AWU recalls are not redirected to a customer-defined Attendant Overflow Position DN. Failed wake up calls stay in the attendant queue or ring indefinitely on the console.

Call Party Name Display

All display information associated with Automatic Wake Up (AWU) programming is directed to line three of the display. Names are appended to DNs appearing on line three if they are different from those on line two, or if no DN appears on line two. There is no DN information on line two if the attendant has initiated the AWU process while not on an active call. No DES information is appended, since AWU operates on a DN basis.

Coordinated Dialing Plan

AWU supports Coordinated Dialing Plan as long as an internal DN is used.

Directory Number Delayed Ringing

The Directory Number Delayed Ringing feature is not supported.

Do Not Disturb

When a telephone is configured for Do Not Disturb, a wake up call can still be presented.

Flexible Feature Codes

Telephones can activate Automatic Wake Up (AWU) features for their own station with Common Controlled Switching Arrangement Class of Service.

The Automatic Wake Up feature may be active at the same time as Multiple Wake Up.

The attendant query function is not supported for Multiple Wake Up.

Multiple Wake Up from Attendant Consoles is not supported.

The Background Terminal (BGT) is not supported for Multiple Wake Up.

If one Automatic Wake Up time has been set using the Automatic Wake Up Activate (AWUA) FFC, only three additional Multiple Wake Up calls may be entered using the Multiple Wake Up Activate (MWUA) FFC.

Intercept Computer Dial from Directory - Post-dial Operation

This feature can be requested as follows:

- Press the Wake-up key on the Attendant Console.
- Dial a DN from the Intercept Computer.

Dial an octothorpe sign “#”, and terminate by dialing the requested wake-up time from the Attendant Console

Manual Line Service

AWU does not support these features; an AWU call cannot be programmed against a manual line or private line DN.

Multiple Appearance DN

All Multiple Appearance DNs are rung, including both primary and secondary DNs. Programming the wake up request using the Wake Up key applies only to telephones with the primary DN on key 0, and the Wake Up indicator operates as described only on the telephone that is currently programming the wake up request.

In addition, if two or more Multiple Appearance Primary DN telephones program a wake up request at the same time, the last telephone to finish overrides. In other words, all telephones with the same primary DN get the same request time of the last telephone to program a request. If the last telephone cancels the request, all requests are canceled.

When the wake up programming sequence is finished, all Wake Up indicators on Multiple Appearance Prime DNs are updated unless a telephone is in the middle of Wake Up programming.

If the AWU Recall option is chosen, the recall is presented to any idle Attendant Console in the same Console Presentation Group (CPG) equipped with the AWU key.

Night Service

Unanswered AWU calls going through Attendant Recall are discarded if the Attendant Console is in the Night Service mode. AWU may still be programmed when the Attendant Console is in Night Service.

Pretranslation

When the Pretranslation feature is equipped with AWU, the actual DN, not the pretranslation DN, should be used when programming the AWU call request.

Room Status

Room Status and Automatic Wake Up both use the Background Terminal (BGD). If the WAKE option is selected for the check-in/check-out operation, the wake-up call for that room is canceled after a check-in or check-out operation.

Feature packaging

Automatic Wake Up (AWU) package 102 requires:

- Background Terminal Facility (BGD) package 99
- Controlled Class of Service (CCOS) package 81
- Recorded Announcement (RAN) package 7

Guest Entry of Auto Wake Up is included as part of Automatic Wake Up (AWU) package 102.

Multi-Language Wake Up (MLWU) package 206 requires Automatic Wake Up (AWU) package 102.

Multiple Wake Up FFCs require Flexible Feature Codes (FFC) package number 139.

Feature implementation

LD 16 – Define the RANF route.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	RDB	Route Data Block.
CUST	xx	Customer number.
ROUT	0-511 0-127	Route number. For Option 11C.
TKTP	AWR	AWU RAN route.
RTYP	AUD	Audichron recorder.
- GRD	PLAY IDLE	Ground Start Arrangement where: If the United Kingdom (UK) package 190 is equipped the default response is PLAY, if this package is not equipped the default response is IDLE. PLAY = RAN machine sends a ground signal when playing. IDLE = RAN machine sends a ground signal when idle.

ACOD	xxxx	Trunk route access code. Must be different from RANF ACOD.
Note: Route 31 cannot be used for AWU on X11 Release 13 and earlier.		

LD 16 – Define the RAN1 route.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	RDB	Route Data Block.
CUST	xx	Customer number.
ROUT	0-511 0-127	Route number. Must be different from RANF route number. For Option 11C.
TKTP	AWR	AWU RAN route.
RTYP	AUD	Audichron recorder.
- GRD	PLAY IDLE	Ground Start Arrangement where: If the United Kingdom (UK) package 190 is equipped the default response is PLAY, if this package is not equipped the default response is IDLE. PLAY = RAN machine sends a ground signal when playing. IDLE = RAN machine sends a ground signal when idle.
ACOD	xxxx	Trunk route access code. Must be different from RANF and RAN1 ACODs.
Note: Route 31 cannot be used for AWU on X11 Release 13 and earlier.		

LD 16 – Define the RAN2 route.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	RDB	Route Data Block.
CUST	xx	Customer number.
ROUT	0-511 0-127	Route number. Must be different from RANF and RAN1. For Option 11C.
TKTP	AWR	AWU RAN route.
RTYP	AUD	Audichron recorder.
- GRD	PLAY IDLE	Ground Start Arrangement where: If the United Kingdom (UK) package 190 is equipped the default response is PLAY, if this package is not equipped the default response is IDLE. PLAY = RAN machine sends a ground signal when playing. IDLE = RAN machine sends a ground signal when idle.
ACOD	xxxx	Trunk route access code.
Note: Route 31 cannot be used for AWU on X11 Release 13 and earlier.		

LD 14 – Define the trunk for RANF.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	AWR	AWU RAN trunk.
TN	l s c u c u	Terminal Number. For Option 11C.
CUST	xx	Customer number.
RTMB	xx yy	Route number and member number.

LD 14 – Define the trunk for RAN1.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	AWR	AWU RAN trunk.
TN	l s c u	Terminal Number. Must be a different TN from RANF.
CUST	xx	Customer number.
RTMB	xx yy	Route number and member number. Must be a different from RANF.

LD 14 – Define the trunk for RAN2.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	AWR	AWU RAN trunk.
TN	l s c u c u	Terminal Number. Must be a different TN from RANF and RAN1.
CUST	xx	Customer number.
RTMB	xx yy	Route number and member number. Must be a different RTMB from RANF and RAN1.

Automatic Wake Up Diagnostic:

To check the availability of the delivery of AWR messages, the technician dials the Access Code (ACOD) from a maintenance set only. A maintenance set is equipped with a MTA Class of Service. Trunks can also be diagnosed in LD 36 by entering the command AWR C R (Test Automatic Wake Up devices associated with Customer (C) and Route (R)).

LD 15 – Enable Automatic Wake Up in Customer Data Block.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB AWU	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- AWU	YES	Activate AWU for a customer.
- ATRC	(NO) YES	(Deny) allow attendant recall.
CONF	0-159	Conference loop number.
- RANF	0-511	Music RAN route number.
- RAN1	0-511	Primary AWR route number.
- RAN2	0-511 <CR>	Secondary AWR route number.
- LA11	X 0-511	Language 1, RAN route 1. X = remove language RAN route definition.
- LA12	0-511	Language 1, AWR route 2.
- LA21	0-511	Language 2, AWR route 1.
- LA22	0-511	Language 2, AWR route 2.
- LA31	0-511	Language 3, AWR route 1.
- LA32	0-511	Language 3, AWR route 2.
- LA41	0-511	Language 4, AWR route 1.
- LA42	0-511	Language 4, AWR route 2.
- LA51	0-511	Language 5, AWR route 1.
- LA52	0-511	Language 5, AWR route 2.
- R2BN	hhmm	RAN2 start time.
- R2ED	hhmm	RAN2 end time.

- NRWU	2-(5)	Number of rings for a wake up call (X11 Release 15 and later).
- TAWU	1-(3)	Number of wake up tries for an unanswered AWU call (X11 Release 16 and later).
Note 1: Conference loops are required only for X11 Release 14 and earlier releases.		
Note 2: AWR route number ranges from 0-511 apply to RT, NT, 51, 61, 71, and 81 only. Range is 0-127 for all other options. Enter "X" to remove a route.		

LD 10 – Set language and CCOS for analog (500/2500 type) telephones (on a per TN basis).

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500 2500	Telephone type.
TN	I s c u c u	Terminal Number. For Option 11C.
LANG	(0)-5	Language number. To remove entry, precede with X.
CLS	CCSA	Controlled Class of Service allowed.

LD 11 – Set language and CCOS for Meridian 1 proprietary telephones (on a per TN basis).

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	I s c u c u	Terminal Number. For Option 11C.
CLS	CCSA	Allow Controlled Class of Service.

LANG	(0)-5	Language number. To remove entry, precede with X.
KEY	xx WUK	Assign a wake up key on a telephone. Must be a key/lamp pair (X11 Release 16 and later).
Note: To assign a language on a per DN basis, use a Background Terminal.		

LD 12 – Allow access to AWU from Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	aaa	Console type, where: aaa = ATT, 1250, 2250.
TN	l s c u c u	Terminal Number. For Option 11C.
KEY	xx AWU	Add an AWU key.

Feature operation

From a telephone with a Wake Up key

To program a wake up call from an idle telephone, follow these steps:

- 1 Press **Wake Up**.
The indicator flashes.
- 2 Dial the wake up request time, in 24-hour format (7:30 a.m. as 730, 7:30 p.m. as 1930).
Telephones with display show a dash followed by the time. If no time is set, a single dash is shown. The indicator keeps flashing.
- 3 Press **Wake Up**.
The indicator goes on steady.

Press the **Release** (Rls) or **PDN** key while programming a wake up request to abort the wake up request. Any previously defined wake up time will remain.

Display telephones If the time interval chosen for the wake up call is full, the system searches for and displays the next available time. If the system cannot find another time, the display shows four dashes (----), and the Wake Up indicator remains flashing. If the system finds another time, the guest has three options:

- To accept the new wake up time, press **Wake Up**.
- To reject the new wake up time and enter another one, dial the new wake up time and press **Wake Up** to validate the new time.
- To abort the wake up time, press **Rls** or the **Prime DN** key (PDN).

To cancel a wake up request, follow these steps:

- 1 Press **Wake Up**.
The indicator flashes.
- 2 Dial the octothorpe (#).
- 3 Press **Wake Up**.
The indicator goes off.

To check a wake up request on a telephone with display, follow these steps:

- 1 Press **Wake Up**.
The indicator flashes and the current wake up time appears on the display. If no wake up time is programmed, the display shows a dash (-).
- 2 Press **Wake Up**.
The indicator lights if a wake up time is set.

Note: In each scenario, the Wake Up indicator lights and the display clears, except when the wake up time is aborted and no wake up time was programmed before the abort. In this case, the Wake Up indicator stays off. If a time was programmed before aborting, the previous wake up time is restored, and the indicator is on.

From an Attendant Console

To program a wake up call from an Attendant Console, follow these steps:

- 1 Press **A. Wake Up**.
The A. Wake Up, ICI, lpk, and S indicators light.
Note: If the displayed number is not the number requiring the wake up call, dial the proper number.
- 2 Press the **octothorpe (#)**.
If the A. Wake Up indicator remains on steadily, the dialed number is valid. If it flashes, the number is invalid.
- 3 Dial the requested wake up time using a 24-hour format. Press **A. Wake Up** again.
If the A. Wake Up indicator remains on without flashing, the requested wake up time is acceptable; if it flashes, the time is not acceptable. Enter the new time; if it is acceptable, the indicator goes on without flashing.
- 4 Press **Rls** to end the procedure.

To cancel a wake up call from an Attendant Console, follow these steps:

- 1 Press **A. Wake Up**.
The A. Wake Up indicator lights.
Note: If the displayed number is not the number requiring cancellation of the wake up call, dial the proper number.
- 2 Press the **octothorpe (#)**, then press **A. Wake Up** again.
The A. Wake Up indicator goes off and the wake up request is canceled.
Note: If the indicator flashes quickly, no wake up call was found for the dialed number. Press **A. Wake Up** again.
- 3 Press **Rls** to end the procedure.

If a guest has not responded after three wake up call attempts, you'll hear a continuous buzz. The indicator will flash quickly. The extension number of the room that has failed to respond will be displayed. Follow these steps:

- 1 Press **A. Wake Up** to cancel the notification.
- 2 Press **Rls** to end the procedure.

To Use Multiple Wake Up FFCs

Activate single

The user must dial the Multiple Wake Up Activate (MWUA) FFC followed by the hour of the wake-up, in 24-hour format, followed by the hour of the next wake-up, in 24-hour format, followed by the minute of the first hour entered followed by the minute of the next hour entered:

MWUA H1 H2 M1 M2

Activate repeat (daily)

The user must dial the Multiple Wake Up Repeat Activate (MWRA) FFC followed by the hour of the wake-up, in 24-hour format, followed by the hour of the next wake-up, in 24-hour format, followed by the minute of the first hour entered followed by the minute of the next hour entered:

MWRA H1 H2 M1 M2

Deactivate single

The user must dial the Multiple Wake Up Deactivate (MWUD) FFC followed by the hour of the wake-up, in 24-hour format, followed by the hour of the next wake-up, in 24-hour format, followed by the minute of the first hour entered followed by the minute of the next hour entered:

MWUD H1 H2 M1 M2

Deactivate all

The user must dial the Multiple Wake Up Deactivate (MWUD) FFC:

MWUD H1 H2 M1 M2

Verify

The user must dial the Automatic Wake Up Verify (AWUV) FFC followed by the hour of the wake-up, in 24-hour format, followed by the hour of the next wake-up, in 24-hour format, followed by the minute of the first hour entered followed by the minute of the next hour entered:

AWUV H1 H2 M1 M2

Automatic Wake Up FFC Delimiter

The Automatic Wake Up Flexible Feature Code Delimiter modifies the user programming interface of the Automatic Wake Up feature, including variations such as Multiple and Repeat Multiple Automatic Wake Up. This modification provides two options for the user: optional delimiter at the end of time entry and optional standard time entry. These options are only applicable to Meridian 1 proprietary and Analog 2500 sets.

The optional delimiter at the end of time entry during the activation, deactivation or verification of Automatic Wake Up is an octothorpe (#).

The standard time entry allows a customer to enter standard time when activating Multiple Automatic Wake Up. When activated, a customer can eliminate the leading zero when entering a time. For example, the time seven am can be entered as 700 rather than 0700. The time can still be entered with four digits even if the standard time entry option is selected by the customer.

When activated, this feature provides the user with a response from the system. The response is silence or confirmation by means of a tone or a recorded announcement.

Operating parameters

The feature is applicable to Meridian 1 Options 11C, 51C, 61C, 81 and 81C systems.

If the user enables the delimiter option without enabling the standard time entry option, all four digits (H1H2M1M2) and an octothorpe (#) must be entered for a valid entry.

An octothorpe (#) is the only delimiter accepted to indicate the end of time entry. This delimiter is not programmable.

Feature interactions

Background Terminal

When changes to the wake up timer are initiated by the Background Terminal or user, the wake up time previously entered last is overridden. An octothorpe (#) is not required when entering the Wake up time from a background terminal.

Call Detail Recording

No Call Detail Recording report is generated for Automatic Wake Up calls.

Directory Numbers - Multiple Appearance

For Multiple Appearance Directory Numbers, wake up information is stored, deleted and queried from a DN's first primary appearance terminal number.

Directory Number - Prime Release Key

Pressing the Prime Directory Number or Release key, when programming a Wake up request, cancels the programming sequence. If an invalid timer is entered, the user hears an error tone. If another feature key is pressed during programming, it is ignored by the system.

Room Status

When a guest has either checked in or out, the room status changes. If an AWU request is still active, it is canceled if it is included as part of the Check In/Out option.

Feature packaging

Automatic Wake Up FFC Delimiter requires Flexible Feature Codes (FFC) package 139. The following packages are also required:

- Automatic Wake Up (AWU) package 102
- Controlled Class of Service (CCOS) package 81
- Recorded Announcement (RAN) package 7
- Background Terminal (BGD) package 99

Flexible Tone and Cadences (FTC) package 125 is required if a special error tone rather than overflow is desired for Automatic Wake Up. FTC and Message Intercept (MINT) package 163 is required if a recorded announcement is desired as confirmation from the system after wake up timer has been entered. International Supplementary Features (SUPP) package 131 is required if values other than the default are desired for the inter-digit timer.

Feature implementation

LD 15 – Enable Automatic Wake Up in Customer Data Block.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	AWU	Change Automatic Wake Up options.
CUST	xx	Customer number.
- AWU	YES	Enable Automatic Wake Up data.
...		
WUD	YES	Wake Up Delimiter. IF WUD = YES then time entry is valid only if user enters octothorpe (#) at end of time digits.
STE	YES	Standard Time Entry prompted only if WUD = YES. This prompt permits three or four digit time entry.

LD 57 – Configure Flexible Feature Codes for Automatic Call Wake Up.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	FFC	Flexible Feature Codes data block.
CUST	xx	Customer number.
FFCT	(NO) YES	Flexible Feature Confirmation Tone.
...		
CODE	AWUA	Auto Wake Up activation code.
- AWUA	xxxx	Auto Wake Up activation code for Meridian 1 proprietary and Analog (500/2500 type) telephones. AWUA is prompted until <CR> is entered.
...		
CODE	AWUD	Auto Wake Up deactivation code.
- AWUD	xxxx	Auto Wake Up deactivation code for Meridian 1 proprietary and Analog (500/2500 type) telephones. AWUD is prompted until <CR> is entered.
CODE	AWUV	Auto Wake Up verification code
- AWUV	xxxx	Auto Wake Up verification code for Meridian 1 proprietary and Analog (500/2500 type) telephones. AWUV is prompted until <CR> is entered.
CODE	MWUA	Multiple Wake Up activation.
- MWUA	xxxx	Multiple Wake Up activation code for Analog (500/2500 type) telephones. MWUA is prompted until <CR> is entered.
CODE	MWRA	Repeat Multiple Wake Up activation.
- MWRA	xxxx	Repeat Multiple Wake Up activation code Analog (500/2500 type) telephones. MWRA is prompted until <CR> is entered.

CODE	MWUD	Multiple Wake Up deactivation.
- MWUD	xxxx	Multiple Wake Up deactivation code Analog (500/2500 type) telephones. MWUD is prompted until <CR> is entered.

LD 56 – Set Automatic Wake Up special error tone and configuration tone.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	FTC	Flexible Tones and Cadences data block.
TABL	0-31	Flexible Tones and Cadences (FTC) Table Number. To associate a FTC table with trunk route, enter the table number in response to the TTBL prompt in LD 16.
...		
HCCT	YES	Hardware Controlled Cadences and Tone modification of the hardware controlled cadence tone definitions allowed.
...		
- FFCT		Flexible Tone and Cadence.
- - XTON	xxx	Flexible Tone and Cadence confirmation tone. China xxx = 211 North America xxx = 004
- - XCAD	xxx	Cadence code for Firmware Cadence Table (FCAD) as entered at Cadence Number (WCAD) prompt. China xxx = 110 North America xxx = 000
- AWUT		Automatic Wake Up.
- - XTON	xxx	Automatic Wake Up special error tone. China xxx = 214 North America xxx = 007
- - XCAD	xxx	Cadence code for Firmware Cadence Table (FCAD) as entered at Cadence Number (WCAD) prompt. China xxx = 100 North American xxx = 017

Feature operation

The following feature operations occur if the WUD prompt (Wake Up Delimiter) and STE prompt (Standard Time Entry) are set to YES in LD 15. If WUD = YES and STE = NO, then the user must dial all four standard time digits and an octothorpe for a valid entry. If WUD = NO then the STE prompt will not appear. In this case, the prior operation exists and the user is not expected to enter the delimiter (#) at the end of time entry. However, all four time digits must be entered for a valid entry. [Table 30](#) shows the Flexible Feature Codes used in the AWU FFC Delimiter feature.

Table 30
Flexible Feature Codes used in AWU FFC Delimiter feature

Feature	Activation Flexible Feature Code	Deactivation Flexible Feature Code	Verification Flexible Feature Code
Automatic Wake Up (AWU)	AWUA	AWUD	AWUV
Multiple Automatic Wake Up (MAWU)	MWUA	MWUD	AWUV
Repeat Multiple Automatic Wake Up	MWRA	MWUD	AWUV

Flexible Feature Code Automatic Wake Up Activation

To activate Automatic Wake Up from an Analog 2500 or a Meridian 1 proprietary telephone:

- 1 Go off-hook. Listen for dial tone.
- 2 Dial "AWUA FFC" H1M1M2# or H1H2M1M2#. Get response and go on-hook.

To activate Automatic Wake Up from an Analog 500 telephone:

- 1 Go off-hook. Listen for dial tone.
- 2 Dial "AWUA FFC" H1H2M1M2. Get response and go on-hook.

Flexible Feature Code Automatic Wake Up Deactivation

To deactivate Automatic Wake Up from an Analog (500/2500) or a Meridian 1 proprietary telephone:

- 1 Go off-hook. Listen for dial tone.
- 2 Dial "AWUD FFC". Get response and go on-hook.

Flexible Feature Code Multiple Automatic Wake Up Activation

To activate Multiple Automatic Wake Up from an Analog 2500 set:

- 1 Go off-hook. Listen for dial tone.
- 2 Dial "MWUA FFC" H1M1M2#. Get response and go on-hook.
- 3 Repeat for up to four wake up times maximum per day.

To activate Multiple Automatic Wake Up time from an Analog 500 set:

- 1 Go off-hook. Listen for dial tone.
- 2 Dial "MWAU FFC" H1H2M1M2. Get response and go on-hook.

Flexible Feature Code Multiple Automatic Wake Up Deactivation

To deactivate single wake up time from an Analog 2500 set:

- 1 Go off-hook. Listen for dial tone.
- 2 Dial "MWUD FFC" H1M1M2# or H1H2M1M2#. Get response and go on-hook.
- 3 Repeat for other wake up times as necessary.

To deactivate a single wake up time from an Analog 500 set:

- 1 Go off-hook. Listen for dial tone.
- 2 Dial "MWUD FFC" H1H2M1M2. Get response and go on-hook.
- 3 Repeat for other wake up times as necessary.

To deactivate all wake up times from an Analog 2500 telephone:

- 1 Go off-hook. Listen for dial tone.
- 2 Dial "MWUD FFC" #. Get response and go on-hook.

To deactivate all wake up times from an Analog 500 telephone:

- 1 Go off-hook. Listen for dial tone.
- 2 Dial "MWUD FFC" and go on-hook.

Flexible Feature Code Automatic/Multiple Automatic Wake Up Verification

To verify Automatic/Multiple Automatic Wake Up from an Analog 2500 set:

- 1 Go off-hook. Listen for dial tone.
- 2 Dial "AWUV FFC" H1M1M2# or H1H2M1M2. Get response and go on-hook.
- 3 Repeat for other wake up times as necessary.

To verify Automatic/Multiple Automatic Wake Up from an Analog 500 set:

- 1 Go off-hook. Listen for dial tone.
- 2 Dial "AWUV FFC" H1H2M1M2. Get response and go on-hook.

Introduced in X11 Release:	10
Networking:	No

Auxiliary Processor Link

The Auxiliary Processor Link (APL) is a full-duplex asynchronous data link capable of accommodating up to a 4800 baud rate. It is connected to the Meridian 1 system through a Serial Data Interface (SDI) port.

This feature is currently used in conjunction with the Integrated Messaging System package and the Automatic Call Distribution (ACD) Dialed Number Identification Service (DNIS) package.

Operating parameters

There are no feature requirements.

Feature interactions

DNIS Length Flexibility

Expanded DNIS (more than four DNIS digits) is not supported on the APL.

Feature packaging

Auxiliary Processor Link (APL) package 109 has no feature package dependencies.

Feature implementation

To implement this feature, refer to *Automatic Call Distribution feature description*.

Feature operation

No specific operating procedures are required to use this feature.

Auxiliary Signaling

In some situations, customers require special auxiliary devices such as bells, buzzers, or lights to be connected through the Meridian 1 system. These devices are activated through a regular 500/2500 Line Card and its associated data block.

Operating parameters

A C4A ringer, or any other special signaling device that can be activated by a 20 Hz ringing signal, can be equipped through the 500/2500 Line Card.

A maximum of five C4A ringers or equivalent devices can be configured on one Terminal Number. This limit depends on the device's impedance to the 20 Hz ringing.

Feature interactions

Mixed DNs

If the DN associated with the signaling device appears on analog (500/2500 type) or Meridian 1 proprietary telephones, the telephone can answer or connect into an active call.

Feature packaging

The Auxiliary Signaling feature is included in basic X11 system software.

Feature implementation

The 500/2500 data block is programmed in LD 10.

Feature operation

No specific operating procedures are required to use this feature.

Introduced in X11 Release:	10
Networking:	No

Background Terminal

Hospitality and health care personnel use Background Terminal (BGD) to enter, retrieve, and modify data associated with the following features:

- Automatic Wake Up (AWU)
- Room Status (RMS)
- Message Registration (MR)
- Call Party Name Display (CPND)

BGD helps monitor system operations by providing a visual display of information changes, hard-copy backup, and traffic statistics.

For complete information on this feature, refer to the *Background Terminal Facility description* (553-2311-316) in the Hospitality binder.

Boss/Secretary Filtering Enhancement

The Boss/Secretary Filtering Enhancement (BSFE) feature is designed for a boss/secretary environment.

Prior to the introduction of the BSFE feature, a boss could forward incoming calls to secretary/secretaries for screening.

With the BSFE feature, incoming calls are forwarded from the boss to a designated secretary using the Call Forward and Busy Status (BFS) key. A maximum of 16 BFS keys can be configured on the boss set. A corresponding BFS key is configured on each secretary set. The following enhancements are also introduced by this feature:

- Display capabilities: If the Display key is pressed during an incoming filtered call, the boss can view the calling party's name and number on the set display.
- Transfer capabilities: If a secretary presses the BFS key once, listens for the boss to pickup and press the BFS key a second time, the incoming filtered call is transferred back to the boss.
- New Class of Service: The Boss Secretary Filtering Enhancement Class of Service Allowed (BFEA) or Denied and the Recall to Boss Allowed (RCBA) or Denied (RCBD).
- Key Lamp status: The BSFE feature allows configuration of the LCD indicator for the BFS key. It is possible to configure the same LCD lamp status to:
 - Dark (key lamp is off)
 - Lit (key lamp is steadily lit)
 - Wink
 - Flash (continual flash of light, 60 ipm)

The BSFE feature is configured on the boss set, with a defined BFS key for each secretary that they boss may select to filter the boss incoming calls. The set will also have a designated key matching the boss key. The BFS key must be a single appearance DN for the boss and the secretary sets. The BFS keys for the boss/secretary sets are configured in pairs and are on the same node.

Operating parameters

Meridian 1 proprietary sets with display support the BSFE feature. The BSFE feature cannot be configured for analog (500/2500) sets or Integrated Services Digital Network (ISDN) BRI sets. The ringing appearance of the DN can be on an analog (500/2500) set but not for a private line.

The BSFE feature cannot be activated simultaneously with these features:

- Call Forward and Busy Status
- Call Forward All Calls
- Remote Call Forward
- Flexible Feature Code Boss Secretarial Filtering

The BSFE feature supports a maximum of 16 secretary sets associated with the boss set.

With the BSFE feature, the BFS key of the boss is generally non-ringing with key lamp indication notification; the secretary set is set up as ringing.

The BSFE feature cannot be activated if the DN of either set is configured as an Automated Call Distribution (ACD) key.

Feature interactions

Hold

If the BSFE feature is active, the secretary answers the incoming boss call by pressing the SCR key or by pressing the BFS key. If the call is answered on the BFS key, pressing the key a second time will automatically put the call on hold and autodial the DN of the boss. If the class of service of the set is Auto Hold Allowed (AHA) and the call is on the BFS key, pressing the SCR key a second time puts the call on hold. If the class of service of the set is Auto Hold Denied (AHD) and the call is on the BFS key, pressing the SCR key again releases the call.

Hotline

Hotline takes precedence over BSFE. Hotline calls to the boss set are not filtered, even if the BSFE feature is active. The hotline calls are directed to the boss set.

Voice Call

If the Voice Call key/lamp is configured as the boss DN on a third party's set, the call is not filtered by the BSFE feature and the call terminates on the boss set.

Voice Mail

If a call is unanswered, whether the BSFE feature is active or deactivated, the voice mail message is sent directly to the voice mail box of the boss.

The BSFE feature takes precedence over the following features:

— **Camp On**

If the BSFE feature is active on the boss set, the incoming calls are not camped on this DN but are sent directly to the secretary set.

— **Call Waiting**

If a call comes in while the boss is on a call and the BSFE feature is active, the call is sent directly to the secretary set.

— **Call Forward and Hunt Override**

If a secretary calls the boss without using the Call Forward and Busy Status (BFS) key, the call goes back to the secretary. If the secretary uses the BFS key when calling the boss, the call goes to the primary DN of the boss.

— **Do Not Disturb**

If the BSFE feature is active on the boss set, the Do Not Disturb (DND) is overridden and the call is sent directly to the secretary.

— **Hunting**

If the boss has Hunt configured and the BSFE feature is active, an incoming call is forwarded to the secretary, not sent through the hunt chain. If the secretary set is busy, the call follows the secretary hunt list.

— **Make Set Busy**

If the BSFE feature and the MSB key is active, the incoming call is sent directly to the secretary; the caller does not receive a busy tone.

— **Private Line**

Private Line calls are filtered by the secretary if the BSFE feature is active.

Feature packaging

The BSFE feature is packaged with the Basic Call Processing package included in the X11 Release 24 system software.

Feature implementation

To configure the Boss/Secretary Filtering Enhancement feature follow these procedures:

- Configure the Lamp Status for the Boss/Secretary Filtering Enhancement feature in LD 15.
- Configure Offhook Alarm Security in LD 15.
- Configure the Boss/Secretary Filtering Enhancement feature in LD 11.

Note: The technician must be aware of the various configurations allowed for the LCD lamp notification states (dark, lit, wink, and flash) to avoid user confusion. The default lamp status states are shown below.

Boss set	Boss set with BFS deactivated	Boss set with BFS activated
Idle	Dark ▷	Wink ▷
Busy	Lit ►	Flash ►

LD 15 - Configure the lamp status for the Boss/Secretary Filtering Enhancement feature.

Prompt	Response	Description
REQ:	CHG	Change existing data.
TYPE:	FTR	Features and Options data.
CUST	xx	Customer Number. xx = 0-99 for Options 51C, 61C, 81, and 81C. xx = 0-31 for Option 11C.
...	...	
BSFE	YES	YES = Allow Boss/Secretary Filtering Enhancement feature. (NO) = Deny Boss/Secretary Filtering Enhancement feature.
- ACT_IDLE	(WINK) FLSH LIT DARK	Boss's Lamp status when BSFE is active and set is idle. LCD Lamp flash rate is 60 impulses per minute. LCD Lamp flash rate is 30 impulses per minute. LCD Lamp is on. LCD Lamp is dark.
- ACT_BUSY	(FLSH) WINK LIT DARK	Boss's Lamp status when BSFE is active and set is busy. LCD Lamp flash rate is 30 impulses per minute. LCD Lamp flash rate is 60 impulses per minute. LCD Lamp is on. LCD Lamp is dark.
- DACT_IDLE	(DARK) WINK LIT FLSH	Boss's Lamp status when BSFE is disabled and set is idle. LCD Lamp is dark. LCD Lamp flash rate is 60 impulses per minute. LCD Lamp is on. LCD Lamp flash rate is 30 impulses per minute.
- DACT_BUSY	(LIT) WINK FLSH DARK	Boss's Lamp status when BSFE is disabled and set is busy. LCD Lamp is on. LCD Lamp flash rate is 60 impulses per minute. LCD Lamp flash rate is 30 impulses per minute. LCD Lamp is dark.
...	...	

LD 15 - Configure Offhook Alarm Security.

Prompt	Response	Description
REQ:	CHG	Change existing data.
TYPE:	OAS	Off-Hook Alarm Security options.
CUST	xx	Customer Number. xx = 0-99 for Options 51C, 61C, 81, and 81C. xx = 0-31 for Option 11C.
ODN0	xxxx	Offhook Alarm Security for zone 0

LD 11 - Configure the Boss/Secretary Filtering Enhancement feature.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	aaaa	Type of Meridian 1 proprietary set.
TN	l s c u c u	Terminal Number. l = loop, s = shelf, c = card, u = unit for Options 51C-81C. c = card, u = unit for Option 11C.
DES	x..x	Office Data Administration System Designator.
CUST	xx	Customer Number as defined in LD 15.
...	...	
CLS	BFEA	BFEA = Allow Boss/Secretary Filtering Enhancement for set. (BFED) = Deny Boss/Secretary Filtering Enhancement for set.
CLS	RCBA	RCBA = Allow Recall to boss on set basis. (RCBD) = Deny Recall to boss on set basis. Note: This class of service forwards unanswered calls back to the boss after a specified number of rings.
...	...	

KEY	xx BFS l s c u xx BFS c u	Call Forward and Busy Status (BFS) key. xx = Set key number. l = loop, s = shelf, c = card, u = unit for Options 51C-81C. c = card, u = unit for option 11C. The TN can be the same set or any other digital set in the same node. Configure the TN of the same set against the BFS key only if the Class Of Service is BFEA.
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Feature operation

To control the BSFE feature from the boss set:

Activate:

- 1 Press the BFS boss key once. The display shows:
PRESS BFS KEY OF SEC.
- 2 Press the specific BFS secretary key to designate the secretary to filter the calls. The designated secretary's BFS key lamp winks on all sets with the default lamp status.

Note: The display on the boss set will go blank. To refresh the display, press the release key.

Deactivate:

- 1 Press the BFS boss key once. The display shows:
CANCEL FILTERING?
- 2 Press the BFS boss key for the second time. The feature is deactivated. The designated boss BFS key lamp turns DARK on all sets with the default lamp status.

To control the BSFE feature from the secretary set:

Activate:

- 1 Press the BFS boss key once The display shows
ACTIVATE FILTERING?
- 2 Press BFS boss key for the second time. This set becomes the secretary set. The display is cleared. The designated boss BFS key lamp WINKS on all sets with the default lamp status.

Deactivate:

- 1 Press BFS boss key for once. The display shows:
 CANCEL FILTERING?
- 2 Press the BFS boss key second time. The feature is deactivated. The display is cleared. The designated boss BFS key lamp turns DARK on all sets with the default lamp status.

To modify the BSFE from another secretary set:

- 1 Press the boss BFS key from another secretary set once. The display shows:
 MODIFY FILTERING?
- 2 Press the boss BFS key from the same set the second time. This secretary set becomes the new secretary filtering the calls of the boss set. The display is cleared.

Accept incoming call by boss:

- 1 Go offhook; press SCR key.
- 2 Press BFS boss key.

To transfer an incoming call from the secretary to the boss set:

- 1 Go off hook/press SCR key to answer the ringing call.
- 2 Press BFS boss key for the first time. Boss set rings.
- 3 Boss set answers the call.
- 4 Press BFS boss key for the second time, this moves the call from the secretary set to the boss set.

The display - boss and secretary:

- 1 Press Display key.
- 2 Press BFS key. The set display shows the DN number of set filtering the boss calls.

- 3 The name and number of calls being filtered is displayed on the boss set.

Note: When the BSFE feature is activated on the boss set, the BFS key flashes on all secretary sets associated with the boss set. This indicates the boss calls are being filtered. Each secretary can press the BFS key to display on their set, the secretary set filters the calls.

Introduced in X11 Release:	All
Networking:	No

Bridging

With Bridging, the same DN can appear on up to eight single-line telephones. A maximum of five of these telephones can be equipped with ringers.

Incoming calls ring all telephones with a ringer connected and can be answered at any of the single-line telephones.

Operating parameters

A maximum of five C4A ringers are allowed on one parallel loop.

Feature interactions

Privacy

Privacy is lost when telephones are bridged. Any appearance of the DN can enter the call by going off-hook.

Feature packaging

Bridging is included in base X11 system software.

Feature implementation

No change to existing configuration is required for the Bridging feature.

Feature operation

No specific operating procedures are required to use this feature.

Busy Lamp Field

There are two types of Busy Lamp Field (BLF) modules.

QMT3 Lamp Field Array

The QMT3 Lamp Field Array is an add-on module for SL-1 telephones and QCW Attendant Consoles. It displays the status of a specified 150 consecutive Directory Numbers (DNs), defined in LD 15 (Standard Busy Lamp Field [SBLF]). A maximum of two Lamp Field Arrays can be supported per customer. Both Lamp Field Arrays in the customer group display status for the same 150 DNs.

Busy Lamp Field/Console Graphics Module

The Busy Lamp Field/Console Graphics Module (BLF/CGM) is an add-on module for the M1250 or M2250 Attendant Consoles. It can be configured to display the status of a specified 150 consecutive DNs (Standard Busy Lamp Field (SBLF)), or all DNs, 100 at a time (Enhanced Busy Lamp Field [EBLF]). By monitoring the status, an attendant can tell a caller if the DN is busy prior to extending the call.

Enhanced Busy Lamp Field (EBLF) Array, introduced in X11 Release 15, displays the status of all DNs for a customer. The BLF/CGM displays the status of 100 DNs at a time on up to 63 M1250/M2250 Attendant Consoles. Each of the Console Graphics Modules can display a different hundreds group, while up to 20 CGMs can display the same hundreds group simultaneously.

When the attendant extends a call, a hundreds group is displayed after enough digits have been entered to determine the group. After a group has been established, the BLF/CGM shows the status for each DN in that group. Figure 8 shows an example of the EBLF on the BLF/CGM.

The EBLF continues to display the status of the hundreds group until another group is determined or until the module is cleared. The display is updated whenever the status of a DN in that group changes. The BLF is cleared when the attendant dials a new series of digits or releases the call.

Figure 8 shows the Standard Busy Lamp Field (SBLF) display on the CGM. The first and last DNs in the displayed group are listed as START EXT and END EXT. The START and END EXT DNs show the hundreds group displayed. The top row on the CGM designates the tens group. The left side shows the ones group. Figure 8 shows the busy DNs to be 3403, 3408, 3410, 3421, 3482, 3488, 3494, 3500, 3543, and 3549.

Figure 8
Standard Busy Lamp Field on the BLF/CGM

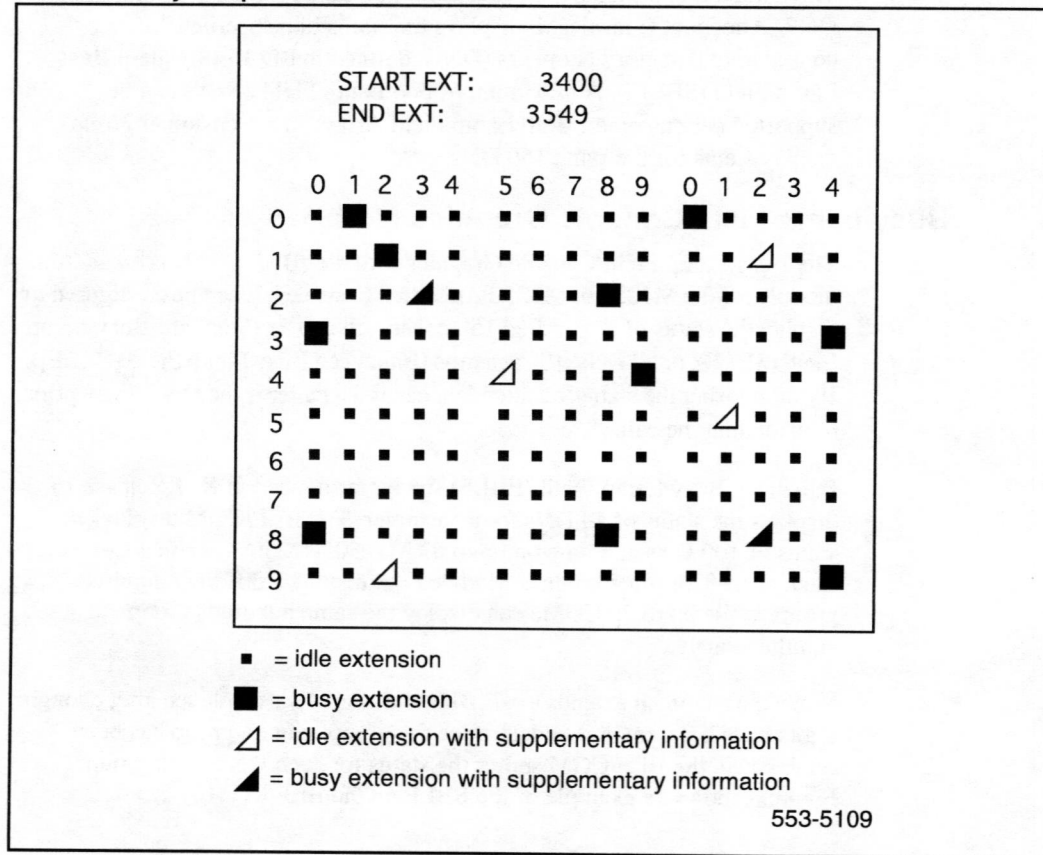
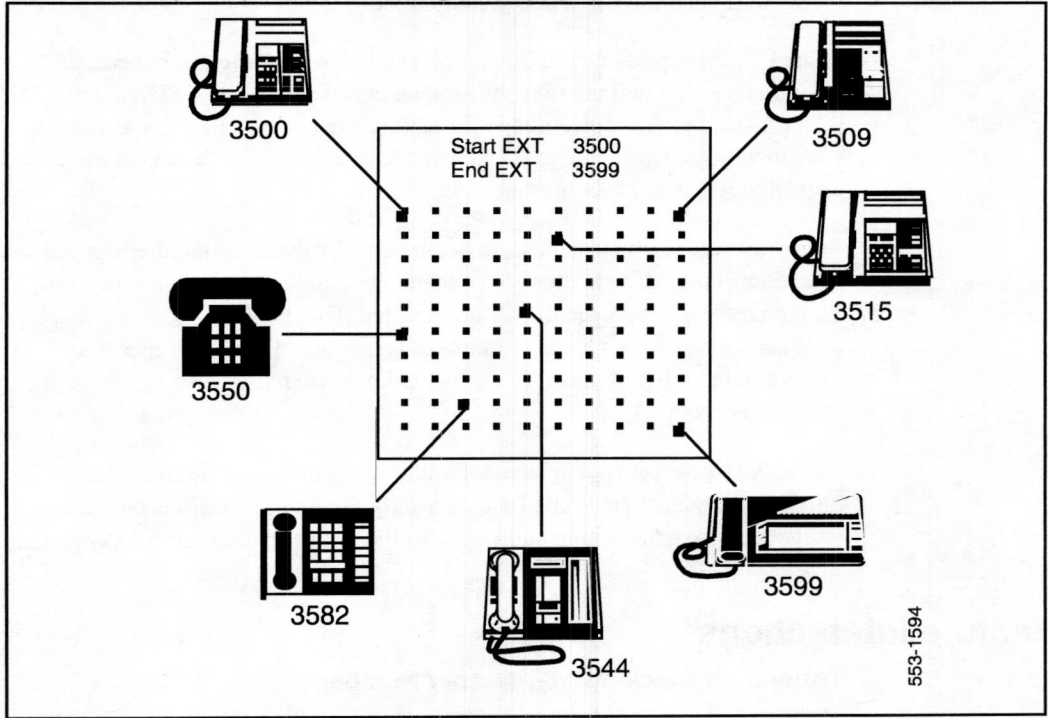


Figure 9 shows a system monitored by the EBLF. Each telephone represents a busy DN, listed beneath the telephone icon. The display screen at the top of the module defines the hundreds group as 35. The CGM displays the busy DNs within that group. The larger squares represent busy telephones within the group, and the smaller squares represent idle DNs. The attendant can quickly see which telephones are busy and which are idle.

Figure 9
Enhanced Busy Lamp Field monitoring (example)



Operating parameters

Enough hundreds groups must be defined to support the maximum number of telephones to be monitored. The maximum number of hundreds is 99.

The EBLF requires an M1250/M2250 Attendant Console equipped with a BLF/CGM. It does not work with the earlier Attendant Consoles using a QMT3 Lamp Field Array.

The SBLF and the EBLF are incompatible.

The EBLF supports mixed dialing plans (4, 5, 6, or 7 digits), but each hundreds group defined must be unique. For example, DNs 25XX and 25XXX cannot be configured in the same system. Any other DN group must begin with something other than 25 because, in this case, the CGM would be updated for DNs 2500 through 2599.

Only 20 Attendant Consoles can be updated for the same hundreds group simultaneously. If more than 20 consoles are monitoring the status of a single hundreds group, only the first 20 are updated. The remaining consoles display the earlier status, and an error message is output at this occurrence. (An unlimited number of consoles can be updated when they display different hundreds groups.)

With X11 Release 16 and later software, when the Make Set Busy key is activated or deactivated, BLF updates only the first DN it finds on the Attendant Console. Lamp audit updates the status of subsequent DNs on the BLF.

Feature interactions

Attendant Blocking of Directory Number

When a DN is blocked due to the Attendant Blocking of DN feature, the Busy Lamp Field/Enhanced Busy Lamp Field lamp corresponding to this DN displays the busy status of the DN as for ringing calls.

Call Park

A busy lamp field can be equipped to display the status of System Park DNs.

Idle Extension Notification

When an extension that is being supervised for an Idle Extension Notification to the attendant becomes idle, it is kept busy from receiving any incoming calls. The lamp on the Attendant Console for that DN will display a busy status, according to the parameters of the Busy Lamp Field/Enhanced Busy Lamp Field feature.

It is not possible to request Idle Extension Notification if the Busy Verify feature has been activated after the Busy Verify key is pressed.

Make Set Busy

When a Make Set Busy key is activated, the Busy Lamp Field array will indicate that the first DN only on that set is busy.

Feature packaging

Busy Lamp Field Array (BLFA) is included in base X11 system software.

EBLF requires X11 Release 15 or later software and the BLF/CGM.

Feature implementation

Response to the following prompts in the listed overlays is required for this feature to operate properly. In addition, at least one DN in each hundreds group must be activate.

LD 29 – Estimate the memory required for Enhanced Busy Lamp Field trees.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB	Customer Data Block.
TYNM	EBLF xx yy z	Enhanced Busy Lamp Field, where: xx = number of Customers to get EBLF yy = Average number of Hundreds Groups (HGRP) per customer, and z = Average DN length (4, 5, 6, or 7).
Note: This overlay is required for ST and Option 21 systems.		

LD 15 – Define the Busy Lamp Field/Console Graphics Module options in the Customer Data Block.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- OPT	(XLF) ILF (XBL) IBL	(Exclude) include Standard Busy Lamp Field. (Exclude) include Enhanced Busy Lamp Field.
- LFTN	l s c u c u	Lamp Field TN for first display console. Prompted only if OPT = ILF. For Option 11C.
- LFTN	l s c u c u	Lamp Field TN for second display console. Secondary TN if this is the Attendant Console.
- LFFD	xxx...x	First DN for the Lamp Field Array for ILF; last two digits of the first DN must be 00. First DN must start on even 100 (e.g., 3400 is acceptable, but 3450 is not).

LD 12 – Identify which Attendant Consoles have Enhanced Busy Lamp Field on the BLF/CGM.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	ATT 1250 2250	Console type.
TN	l s c u c u	Terminal Number. For Option 11C.
EBLF	(BLFD) BLFA	(Deny) allow Enhanced Busy Lamp Field. Prompted only if TYPE = 1250 or 2250.

When the BLF is configured before the telephones are programmed, the procedures in LD 10 and LD 11 are not required. As an alternative to reentering data when the BLF is configured after the telephones, a SYSLOAD associates the DN with the Hundreds Group (HGRP).

LD 10 – Activate DN hundreds groups for EBLF for each DN within each hundreds group.


Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
DN	xxx...x	Reenter Directory Number (no change necessary).

LD 11 – Activate DN hundreds groups for EBLF for each DN within each hundreds group.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
KEY	xx aaa yyy...y	Reassign Directory Number (no change necessary), where: xx = key number aaa = DN type, and yyy...y = Directory Number.

Feature operation

To display the status of extensions on the BLF/CGM (attendant), follow these steps:

- 1 Press the **SHIFT** key, then the conf. 6/BLF key.
 The console is in the BLF mode.
- 2 Press the **Mode** key .
 The BLF/CGM screen displays the main menu.
- 3 Dial 0 (zero).
 The BLF/CGM displays the SBLF or the EBLF, depending on which option is configured in the system software.

For complete feature operation, see *Busy Lamp Field/Console Graphics Module user guide*.

Busy Tone Detection for Asia Pacific and CALA

The Busy Tone Detection feature for Asia Pacific and CALA uses the Digital Signaling Processor Universal Trunk (DXUT) card. This card is based on the Extended Universal Trunk card (EXUT) and allows for the following two capabilities:

- Flexible Busy Tone Detection
- Automatic Balance Impedance (AUTO_BIMP in Overlay 14)

The Flexible Busy Tone Detection functionality of this trunk card allows the Meridian 1 to recognize busy tones sent from a Public Exchange/Central Office. Busy Tone Detection permits disconnect supervision for Loop Start Central Office (CO) trunks. The Central Office provides busy tone to the last party involved in a call. The Meridian 1 detects this busy tone and disconnects the call.

Busy Tone Detection features are utilized in countries where tone detection is the only method for the Meridian 1 to detect far end disconnection.

The Busy Tone Detection feature for Asia Pacific and CALA uses the X11 Release 23 NT5D31 Digital Signaling Processor (DSP) Universal Trunk (DXUT) card. This card is based on the Extended Universal Trunk card (EXUT) and is configured in the software as an EXUT card. However, the DXUT card has flexible busy tone detection provided by a digital signal processor (DSP). The DXUT card also has tone detection intelligence that allows it to accurately differentiate between different disconnect tones sent by a Public Exchange/Central Office.

The DXUT card has programmable Busy Tone Detection characteristics which include:

- Cadence (same as Release 21 and 22)
- Incoming or Incoming and Outgoing call direction
- Tone Frequencies
- Tone Bandwidth
- Tone Levels

Tones are detected according to the parameters configured in Overlay 97.

When a trunk card does not support the Busy Tone Detection feature, it can still be configured in software; although, the hardware does not recognize the new Busy Tone messages. The DXUT messages are ignored by the old hardware. The existing hardware is still operational since the Busy Tone feature still supports the older hardware. Old messages are sent for backwards compatibility but are not resent to define frequency criteria.

The Automatic Balance Impedance (AUTO_BIMP) functionalities of the DXUT card enhance the Transhybrid Loss matching capability. The automatic balancing is performed by the Digital Signal Processor (DSP) when checking the reflections from the transmission line. When the software sends an AUTO_BIMP message to the DXUT card, the DSP generates a test tone and measures the amount of signal being reflected. The DSP then internally adjusts the balance network, in the codec, for the best Transhybrid loss.

Operating parameters

The Busy Tone Detection feature for Asia Pacific and CALA requires the DXUT card. The DXUT card requires busy tone detection data to be downloaded prior to activating this feature.

The AUTO_BIMP functionalities of this feature are supported in X11 Release 23 but not in the Digital Signaling Processor Universal Trunk (DXUT) card NT5D31 hardware.

Direct Inward Dialing (DID) trunks do not require busy tone supervision, since the Public Exchange/Central Office seizes the Meridian 1 trunk by closing the transmission loop. Far end trunk release is accomplished when the Public Exchange/Central Office opens the circuit.

Japan trunk cards, the Extended Universal Trunk card for Japan (XUTJ) and the Enhanced Extended Universal Trunk card for Japan (EXUTJ), do not support this feature. The DXUT card is not supported in Japan.

The Meridian 1 disconnects a call when a busy tone is detected on an incoming trunk. If the caller on the far end causes a busy tone to be generated, the call is disconnected, regardless of whether or not disconnection was intended. As an example, when a caller connected to a Public Exchange/Central Office attempts to conference in a busy party, the Meridian 1 picks up this busy tone and the call is disconnected.

If any other types of tones (other than busy tone) are detected with the same cadence, frequency and level, the call is disconnected.

The Busy Tone Detection feature for Asia Pacific and CALA may not operate on conference bridges. In the scenario of Busy Tone Detection operating with a conference bridge, all of the trunks are incoming and an incoming Public Exchange/Central Office trunk disconnects from a conference. In this scenario, the disconnected trunk sends a busy tone signal to the conference bridge, and all trunks may be disconnected simultaneously.

In the event that an incoming call is connected to an external conference and two different Public Exchanges/Central Offices are sending busy tone signals at the same time, a stalemate condition may exist. When this occurs, the cadence of both busy tones may not be the same, and the resulted combination cadences may not be detected.

The DXUT card is based on the EXUT card design and is intended to operate in an EXUT compatible Loss Planning environment. In X11 Release 22, these EXUT compatible Loss Planning environments included the North American Loss Planning environment and Dynamic Loss Switching environments in certain countries.

Busy Tone characteristics are downloaded on a card basis. The Busy Tone Detection table assigned to the card is downloaded to the card when: the first trunk is configured, the card is disabled and enabled, the card is unplugged and reset, during initialization after sysload, and when the Extended Peripheral Equipment is enabled.

Feature interactions

European XFCOT Support

When the XFCOT Busy Tone ID (BTID) is configured in Overlay 14 only the BTID is downloaded to the XFCOT card. The BTID is downloaded to the EXUT card when the Busy Tone Detection (BTD) package 294 is equipped.

Trunk to Trunk Connection

When the Trunk to Trunk Connection feature interacts with Busy Tone Detection for Asia Pacific and CALA, which ever feature occurs first takes precedence.

Timed Forced Disconnect

When Timed Forced Disconnect interacts with Busy Tone Detection for Asia Pacific and CALA, whichever feature occurs first takes precedence.

Feature packaging

Busy Tone Detection for Asia Pacific and CALA requires Busy Tone Detection (BTD) package 294.

Feature implementation

LD 97 – Configure Busy Tone Detection (BTD) table parameters.

Note: Once the BTD table is configured, the new trunks can be entered and the required BTD table is assigned on a card basis. The BTD table number can only be entered in for the first unit programmed on the card.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	BTD	Busy Tone Detection.
BTDT	(0) - 7	Busy Tone Detection Table.

BCAD	(350) (350) 500 500	<p>Busy Tone Cadence (in milliseconds). (ON cycle) (OFF cycle) (default)</p> <p>For Japan. The values for each cycle are 0 to 1.5 seconds (1500 ms) and are entered in milliseconds. Input values are rounded to the nearest multiple of 25 ms. If zero (0) is entered for both phases, then a continuous tone occurs.</p>
BTDD	(BOTH) INC	<p>Busy Tone Detection Direction: Both Incoming and outgoing calls (default). Incoming calls only.</p>
FREQ_0	350 - 655	<p>Frequency of Busy Tone for Frequency 0 of a dual Busy Tone Detection to be detected in Hz. Valid entries are in multiples of 5Hz.</p>
FREQ_1	350 - 655	<p>Frequency of Busy Tone for Frequency 1 of a dual Busy Tone Detection to be detected in Hz. Valid entries are in multiples of 5Hz.</p> <p>For a single busy tone FREQ_1 must be set the same as FREQ_0.</p>
FDLT	10 - 315	<p>Frequency Delta. FDLT gives the tolerance of the tone to be detected in +/- hertz. Valid entries are in multiples of 5Hz.</p> <p>For dual Busy Tone Detection on the NT5D31 card, the same maximum and minimum levels apply to both tones.</p>
FLVL_MAX	0 - 15	<p>Maximum Frequency Tone level to be detected. Valid entries are in multiples of 5dBm.</p> <p>For dual Busy Tone Detection on the NT5D31 card, the same level applies to both tones.</p>
FLVL_MIN	20 - 35	<p>Minimum Frequency Tone level to be detected. Valid entries are in multiples of 5dBm.</p> <p>For dual Busy Tone Detection on the NT5D31 card, the same level applies to both tones.</p>

LD 16 – Configure trunk units and trunk timers in the Route Data Block.

Prompt	Response	Description
REQ	NEW	Add a new data block to the system.
TYPE	RDB	Define a new Route Data Block.
CUST	xx	Enter customer number.
ROUT	0-511 0-127	Enter route number. For Option 11C.
TKTP	COT	Define trunk type as Central Office.
ICOG	IAO	Incoming and Outgoing trunk.
CNTL	YES	Changes to controls or timers.
NEDC	ETH	Either end control.
FEDC	ETH	Either end control.

LD 14 – Configure Busy Tone Supervision for a new Central Office Trunk.

Prompt	Response	Description
REQ	NEW	Add new data.
TYPE	COT	Central Office trunk.
TN	l s c u c u	Terminal Number. For Option 11C.
XTRK	EXUT	Type is IPE EXUT. This includes the DXUT. (This prompt is required only for the first unit defined on each card.)
CUST	xx	Customer number.
RTMB	0-511 1-254 0-127 1-254	Route number and Member number. For Option 11C.
SIGL	LOP	Loop start level 3 signaling.
TIMP	(600) 900	Termination Impedance.

BIMP	(3COM) 3CM2 600 900	Balance Impedance. In the case of AUTO_BIMP, this BIMP value is used as a default value if an optimum AUTO_BIMP is not found or if the AUTO_BIMP test is not complete.
AUTO_BIMP	YES	Automatic Balance Impedance is set according to transmission line parameters. NO = default for new trunks. Note: The Auto_BIMP prompt is supported in X11 Release 23 software but is not supported by the DXUT card NT5D31.
SUPN	YES	Answer and disconnect supervision required.
-STYP	PIP BTS PIP BTS	Supervision Type. Polarity Insensitive Pack. Busy Tone Supervision. Both options.
BTDT	(0)-7	Busy Tone Detection Table number configured in LD 97. (This prompt is required only for the first unit defined on each card.)
CLS	(DIP) DTN	Dial Pulse. Digitone.

Feature operation

No specific operating procedures are required to use this feature.

Busy Tone Detection for Japan

In many countries, Central Office loop start trunks are not supervised. This can lead to difficulties for incoming calls to the Meridian 1 that require disconnect supervision to operate properly. Through a modification to the tone detector, this feature allows the Meridian 1 to perform disconnect supervision through the recognition of a busy tone sent by the Public Exchange/Central Office.

Busy Tone Detection for Japan allows a technician to enter the characteristics of the busy tone tables in LD 97. When these characteristics are programmed, the information is downloaded to the Meridian 1 during call processing. When a busy tone is detected, the trunk sends a message to the Meridian 1 software to disconnect the call and free the trunk for other uses.

This feature provides Japan Central Office (JCO) and Japan Direct Inward Dialing (JDID) trunks with Busy Tone Detection (BTD) capability through trunk supervision.

Operating parameters

The feature is applicable to Meridian 1 Options 11C, 51C, 61C, 81 and 81C systems.

Busy Tone Detection for Japan requires the Enhanced Extended Universal Trunk Card for Japan (EXUTJ).

This feature requires a busy tone from the Public Exchange/Central Office.

The Meridian 1 disconnects any call if a busy tone is detected on the incoming trunk. If called party causes a busy tone to be generated, the call disconnects whether intended or not. As an example, this may happen if a Central Office user tries to conference in a busy party. The busy tone is detected by the Private Branch Exchange (PBX) trunk and the call disconnects.

If another tone is configured similar to the Busy Tone (frequency + or - 30 Hz and cadence within + or - 100 ms), the busy tone detector is interpreted as a busy tone and the call is disconnected. Therefore, tones should be configured so they can be interpreted correctly.

The busy tone detection characteristics are downloaded on a card basis only. All units on the trunk card must go to the Central Office that produces the same Busy Tone cadence.

To modify the busy tone detection table assigned to a trunk card, all trunks on that card must be removed initially from the software (LD 14). It is recommended that all Central Office loop start trunk units be on the same card and configured in the same route.

500/2500 Line Disconnect Supervision is supported by this feature.

The (EXUTJ) Enhanced Extended Universal Trunk for Japan with Busy Tone Supervision is only supported with X11 Release 22, although the China – Busy Tone Detection was introduced in X11 Release 21.

If the trunk card is not designed to support the Busy Tone Detection (BTD) feature, BTD can still be configured in the software. However, no feedback is given to the technician that a discrepancy exists between the software and hardware configuration.

Feature interactions

Timed Forced Disconnect

Busy Tone Detection for Japan activates a timer to start once a Central Office (as well as other types of trunks) has been seized. After this timer expires, the trunk is forced to disconnect. BTD does not impact this timer; however, whichever timer occurs first will prevail.

Trunk to Trunk Connection

Busy Tone Detection for Japan does not impact the Trunk to Trunk Connection feature. However, which ever occurs first prevails.

Feature packaging

Busy Tone Detection for Japan is Busy Tone Detection (BTD) package 294.

The following packages are also required:

- Meridian 1 Extended Peripheral Equipment (XPE) package 203
- Japan Central Office Trunk (JPN) package 97

Feature implementation

LD 97 – Assign Tone Characteristics to Busy Tone Detection Tables.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	BTD	Busy Tone Detection data block.
BTDT	(0)-7 X1-X7	Busy Tone Detection table. Table 0 can be changed but cannot be removed. Table 0 should always exist (when the BTD package is equipped) and is initialized to the default value for Japan. When creating alternate tables, table 0's values are used to fill the table and these can be changed. Enter X in front of the table number to remove the table.
BCAD	500 500 (ph1 ph2)	Busy Tone Cadence (on and off phase length during the cycle can be entered). ph1 is the ON cycle and ph2 is the OFF cycle. The values for each phase can be 0 to 1.5 seconds (1500 ms) and are entered as ms. The input values are rounded to the nearest multiple of 25 ms. Entering all 0s indicates continuous tone. A tone is deemed continuous if it lasts for at least 3.2 seconds. The smallest cadence is 50 ms even though 25 ms can be entered.
BTDD	(BOTH) INC	Busy Tone Detection Direction. BOTH = both incoming and outgoing calls INC = incoming calls only

LD 14 – Assign Busy Tone Detection to Central Office (CO), Foreign Exchange (FEX) and WATS Trunks.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	COT	Central Office Trunk.
TN	I s c u c u	Terminal Number. For Option 11C.
XTRK	XUT	Enhanced Extended Universal Trunk.
...		
SIGL	LOP	Loop start signaling.
...		
SUPN	YES	Answer and disconnect supervision required. If SUPN = YES, then the values stored in supervision type (STYP prompt) are initialized and only the current entered values are saved. Therefore, complete supervision is required every time through this branch.
- STYP	xxx	Trunk supervision type where xxx is: PIP = Polarity Insensitive JCO = Japan Central Office BTS = Busy Tone Supervision
...		
BTDT	(0)-7	Busy Tone Detection Table. This table must be defined in LD 97.

LD 14 – Assign Busy Tone Detection to Direct Inward Dialing (DID) Trunks.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	DID	Direct Inward Dialing Trunk.
TN	I s c u c u	Terminal Number. For option 11C.
XTRK	XUT	Enhanced Extended Universal Trunk.
...		
SIGL	LOP	Loop start signaling.
...		
SUPN	YES	Supervision. This response is automatically prompted YES for DID LOP.
- STYP	xxxx	Trunk supervision type where xxxx is: JDID = Japan DID. When XTRK = XUT and <CR> is entered STYP default to JDID. JDID BTS = Busy Tone Supervision and JDID (XUT only). When XTRK = XUT and BTS is entered STYP defaults to JDID BTS.
...		
BTDT	(0)-7	Busy Tone Detection Table. This table must be defined in LD 97.

Feature operation

No specific operating procedures are required to use this feature.

Busy Verify on Calling Party Control Calls

This enhancement to the Busy Verify feature changes the way in which a local attendant and toll attendant, and Network Attendant Service attendant are able to Busy Verify, Barge-In, and Break-In to a station that is connected to a trunk on a route that has Calling Party Control (CGPC) set to YES.

The previous operation was as follows, for a local call:

	Busy Verify	Barge-In	Break-In
Local attendant	No	No	Yes
Toll attendant	–	–	Yes
NAS attendant	–	–	Yes

The enhanced operation is as follows:

	Busy Verify	Barge-In	Break-In
Local attendant	Yes	Yes	Yes
Toll attendant	–	–	Yes
NAS attendant	–	–	Yes

The previous operation for a toll call was as follows:

	Busy Verify	Barge-In	Break-In
Local attendant	No	No	Yes
Toll attendant	—	—	No
NAS attendant	—	—	Yes

The enhanced operation is as follows:

	Busy Verify	Barge-In	Break-In
Local attendant	No	No	No
Toll attendant	—	—	No
NAS attendant	—	—	No

Operating parameters

There are no feature requirements.

Feature interactions

Attendant Break-In

Local Attendant Break-In will be temporarily denied if the desired party is already in a toll operator Break-In conference or on a Special Service call, or awaiting the Special Operator signal. Local attendant/toll operator Break-In will be temporarily denied if the desired party is established on an incoming toll call.

Network Attendant Services (NAS)

A NAS attendant is not allowed to Busy Verify to a station on a different node, or Barge-In to a trunk on a different node. A NAS attendant is allowed to Break-In to a station on a different node, if the incoming trunk on the route is not a toll call. NAS attendant Break-In will be temporarily denied if the desired party is already on a toll call, a toll operator Break-In conference, or a Special Service call, or awaiting the Special Operator signal.

Feature packaging

Busy Verify on Calling Party Control Calls requires Operator Call Back (OPCB) package 126.

Feature implementation

No change to existing configuration is required for the Busy Verify on Calling Party Control Calls feature.

Feature operation

See the Attendant Busy Verify, Attendant Barge-In, and Attendant Break-In feature descriptions contained within this document.

B34 Codec Static Loss Plan Downloading

This feature provides software support for Static Loss Plan Downloading to the B34 codec. A codec is a device on an Intelligent Peripheral Equipment (IPE) card which encodes incoming transmission data from analog to digital, and decodes outgoing transmission data from digital to analog.

The B34 codec is a four-channel codec providing 32 programmable loss values in 0.5 dB steps in both the transmit and receive directions. The B34 allows transmission parameters, which can be downloaded to the IPE unit, to be changed by software. Since the loss and level requirements differ from country to country, this allows Meridian 1 compliance to the different transmission plans used in the world markets using a single codec.

The selected coded levels are downloaded to each unit based on the unit's port type classification at initialization, configuration, or enable time. This is referred to as static downloading. These levels will be used for all call connections involving that unit. The B34 Codec Static Loss Plan Downloading feature is therefore used on systems where a single loss setting is sufficient for all types of call connections.

Some markets, however, require adjustments on the loss setting depending on the call connection. This is referred to as Dynamic Pad Switching, or Dynamic Loss Switching, and is addressed by the Dynamic Loss Switching feature, which is described elsewhere in this publication. The B34 Codec Static Loss Plan Downloading feature provides the basis for the Dynamic Loss Switching feature; if Dynamic Loss Switching is enabled for a system, Static Loss Plan Downloading is suppressed on that same system.

The transmission plan for each country follows the European Telecommunications Standards Institute (ETSI) standard of loss values (referred to as “new values”), or existing values (loss values currently provided by existing cards in ETSI countries). New IPE cards must be capable of accepting these existing values for use in existing systems, so as to maintain port-to-port loss integrity.

Typically, existing (pre-Phase 8B) systems do not require flexible B34 equipped IPE cards unless their loss plans change; these systems use the existing loss plans. New systems installed with Phase 8B software contain only flexible B34 equipped IPE cards, and can use either existing loss plans or the ETSI loss plans. Systems equipped with both flexible B34 equipped IPE cards and non-B34 equipped IPE cards require type approval to be secured under existing loss plan values.

The Static Loss Plan Download feature allows the selection of a loss plan table which is either compliant with the old or the new loss plan for various countries. The feature is supported on international IPE analog trunk cards (XCOT, XFCOT, XDID, XCO/XDID, XFEM, or any trunk configured with XTRK type of XCOT, XDID, or XFEM) with the right firmware support. In special situations and with the right authorization, a customized table may be defined.

When selecting a loss plan table, it is important to verify whether the existing or ESTI mode is to be exhibited by the system (the “Feature implementation” section explains how to install a loss plan table using LD 97). A Service Change interface allows an existing or ETSI table to be selected by specifying a loss plan table number. If the loss plan needs to be upgraded in the field or if a newly defined loss plan has to be installed, a service change may be performed by an authorized craftsperson to enter a table of customized loss plan values for each port type, or to customize a pre-defined table by changing the table values. The table can then be downloaded upon any of the following conditions:

- at system initialization for all units
- when a trunk or line card, or trunk or line unit is enabled
- when the XPEC is enabled
- when the IPE shelf is enabled

- when a configured card is reset
- after a trunk unit has undergone a “NEW”, “CHANGE”, or “MOVE” operation using LD 14 or LD 10

There is no mechanism to indicate whether or not an IPE card is equipped with the B34 codec. Loss plan messages are downloaded to all IPE cards in hybrid systems, whether or not they are equipped with the B34 codec. Typically, there are three vintages of firmware used in the field:

- non-B34 codec equipped cards
- hardcoded B34 equipped cards
- flexible B34 equipped cards

There are two versions of the flexible B34 equipped cards, a flexible 7C software compatible B34 equipped card and a flexible 8B software compatible B34 equipped card. The hardcoded and 7C software compatible versions of the B34 equipped cards have country-unique loss value defaults. The flexible 8B software compatible B34 equipped card have universal B34 default loss values, which do not meet any country-specific requirements.

The flexible 7C software compatible B34 equipped card and the flexible 8B software compatible B34 equipped card both recognize the new B34 (type 12) messages, as well as the old static pad switching (type 5) messages; the type 12 messages take precedence. The hardcoded B34 cards only recognize the type 5 messages.

The flexible 7C B34 equipped cards are forward compatible with the new software; the hardcoded B34 cards are not. The flexible 8B B34 equipped cards are not backwards compatible to systems running older versions of software.

Operating parameters

A system must be configured with one or more IPE cards equipped with a B34 codec and firmware supporting software downloading. It is the responsibility of the installer to verify that the IPE cards used are compliant with the download messages used by this feature.

XFALC (flexible analog line card) is compatible with the download messages supporting Static Loss Plan Download.

Since the flexible 8B B34 equipped cards are not backwards compatible to systems running older versions of software, the following upgrade strategy should be followed:

- Systems running software Phase 7C or earlier, and upgrading to Phase 8B software, do not require the new flexible B34 IPE cards if the transmission plan remains the same. These systems may be equipped with a mix of hardcoded B34 IPE cards and new flexible B34 IPE cards; if changing to the new ETSI loss plan, all hardcoded B34 IPE cards must be retrofitted with the new flexible B34 IPE cards.
- Systems changing to a new ETSI loss plan must use the new flexible B34 IPE cards as well as Phase 8B static parameter download software; a hardware retrofit and a software upgrade are also necessary.
- Newly installed systems will use the new flexible B34 IPE cards.

New flexible B34 equipped XFALC (flexible analog line cards) support Static Loss Plan Downloading using B34 messages. New flexible B34 equipped XFALCs installed in a Phase 7C software environment do not receive download messages, but use the firmware-defined default.

A distinction must be made between long and short lines on ALC units, and to download loss plan values based on this setting.

Feature interactions

Alternative Loss Plan

The alternative loss plan tables must be enlarged as the default table is enlarged.

B34 Dynamic Loss Switching

B34 Codec Static Loss Download is a prerequisite for B34 Dynamic Loss Switching. Both features share the same definition of port types and use the same base-level table.

When B34 Dynamic Loss Switching is enabled, the Static Download messages to the analog trunk cards are suppressed. Static download to analog line cards continues.

B34 codec static loss download. Since the B34 Dynamic Loss Switching is dependent on B34 Codec Static Loss Download, B34 Codec Static Loss Download must be enabled when B34 Dynamic Loss Switching is enabled. The port types defined for B34 Dynamic Loss Switching are a subset of the port types defined for B34 Codec Static Loss Download.

Also, the base level table used by B34 Codec Static Loss Download is also used by B34 Dynamic Loss Switching. Since B34 Codec Static Loss Download is a prerequisite for B34 Dynamic Loss Switching, B34 Codec Static Loss Download is enabled when B34 Dynamic Loss Switching is enabled. When B34 Dynamic Loss Switching is enabled, the following operations concerning trunk cards are suppressed:

- During initialization, B34 Codec Static Loss Downloading to trunk cards is suppressed, so that loss levels do not change in case there are active calls. Downloading continues to analog line cards.
- In LDs 32 and 36, B34 Codec Static Loss Download is suppressed on enabling the trunk card or unit, so that loss levels do not change in case there are active calls. Downloading continues to analog line cards.
- When reseating the cards, B34 Codec Static Loss Download is suppressed. Downloading continues to analog line cards.
- In LD 14, B34 Codec Static Loss Download is suppressed.
- In LD 10, B34 Codec Static Loss Download is suppressed.

When B34 Dynamic Loss Switching is disabled, all B34 Codec Static Loss Downloads to trunks are suppressed. This introduces the danger of having some cards in the system which are not set with the proper loss levels, since the system has been changed from a dynamic mode to a static mode without activating the download of the static messages. To highlight this change, a SCH5842 error message is generated, indicating to the craftsperson that B34 Dynamic Loss Switching is disabled, and that B34 Static Loss Downloading is now in effect and that a download should be activated by system initialization or SYSLOAD.

When B34 Dynamic Loss Switching is enabled, all B34 Codec Static Loss Download audit messages to trunk cards are suppressed.

Conference

When a conference connection is established, no pads are switched in on the trunk side; any extra loss that is required is provided by the conference circuit based on an algorithm which takes into account the number of lines and trunks.

Digital Trunk Interface (DTI) Pad Switching

Pad switching for DTI applications is done dynamically, based on the far end's port type. On the DTI side, a loss value is switched on the receive and transmit side, depending on the far end's port type. If the far end is analog, a pad is switched in or out; if the far end is digital, a zero loss is switched in, so that the relative loss is taken care of only on one side. Connection between DTI/PRI and XDID, XFCOT, and XFEM trunks is not supported, since DTI pad switching does not take care of these trunk types.

DTI2 Pad Switching

Pad switching for DTI2 applications is done dynamically, based on the far end's port type. On the DTI side, a loss value is switched on the receive and transmit side, depending on the far end's port type. The far end side is handled by the normal operation for the trunk type, that is, if the far end is DTI, it is handled according to the DTI pad switching; if it is otherwise, it is handled by the configured matrices. Trunk pads are switched out for Existing Peripheral Equipment (EPE) trunks. No messages are sent for XDID, XFCOT, and XFEM trunk types. For XUT and XEM trunk types, the loss equivalent to pad out is switched in. For XDID, XFCOT, and XFEM trunks, the base level (static) value is switched in when connected to the DTI2 trunk types.

GEC Plessey hardware

No losses are sent to XCOT, XDID, and XFEM trunk cards when these cards are connected to GEC hardware, since there is no dynamic switching done for them. On the GEC hardware side of such a connection, the pads are switched in according to the type of trunk (near end) as opposed to what it is connected (far end); therefore, the loss is switched in regardless of whether the connection is to XCOT, XDID, and XFEM trunk cards or other types of cards.

Intelligent Peripheral Equipment Completion

Whenever a TIE/LDR trunk is configured on an XIDID card, for Static Loss Plan Download (SLPD)/Dynamic Loss Switching (DLS), loss/level is downloaded/switched to an XDID card with the type 12 message. Depending on the Class of Service configured, Non-Transmission Compensated (NTC), Transmission Compensated (TRC), or Via Net Loss (VNL), the TIE unit will be mapped to the following B34 port types: B34 T2WN, B34 T2WT, or B34 T2WV.

ISDN Basic Rate Interface

It is possible to switch in loss on the ISDN BRI side, based on port types.

MFE/MFC Pads

The Alternative Loss Plan feature allows trunks to be configured so as to have pads switched in when an MFS sender/receiver is equipped. For such a configuration, the following occurs for B34 port types:

- pads are switched in for outgoing calls (the trunk is the originator), and
- pads are switched in, if in the dialing state, for incoming calls (the trunk is the terminator).

Feature packaging

B34 Codec Static Loss Plan Downloading requires Meridian 1 Intelligent Peripheral Equipment (XPE) package 203.

Feature implementation

The loss level tables are configured in LD 97. Note that the craftsperson must have an authorized password to configure the loss tables, but printing of the tables can be performed without the password.

LD 97 – Configure a loss plan table.

Prompt	Response	Description
TYPE	LOSP	The type branch for the system loss plan table. Enter LOSP.
STYP	(PRED) CSTM DISL	The type of B34 static loss plan table to be used to download B34 programmable loss codes. Enter PRED if a numbered pre-defined static loss plan is to be used. Enter CSTM to customize an existing static loss plan table by modifying one or more existing entries, or to create a new table by entering new values to all entries. Enter DISL to disable static loss plan downloading.
PWD2	xxxx	Enter the level 2 administrator password. Note that this is prompted only when STYP=DISL or STYP=CSTM. If STYP=DISL, and the proper password is entered, then the next prompt is REQ. If STYP=CSTM, and the proper password is entered, then the next prompts are the PORTTYPES (e.g., COTS, COTL). If the password entered is incorrect, an existing error message, SCH523, SCH525, SCH526 will be issued and PWD2 will be re-prompted.
TNUM	1-25	Prompted only if PRED was entered in response to the STYP prompt above. Enter the number for the required pre-defined static loss plan.
COTS	Rx Tx	Prompted only if the response to the STYP prompt above was CSTM. COT short line. Enter the coded input/output relative levels in the receive (Rx) direction and in the transmit (Tx) direction, for this port type. The input range of Rx and Tx for port types associated with trunks is 8-39 and 0-31 respectively; the input range of Rx and Tx for port types associated with analog lines is 0-31 and 8-39 respectively.
COTL	Rx Tx	COT long line. The same definition applies as for COTS.
DIDS	Rx Tx	DID/DOD short line. The same definition applies as for COTS.

DIDL	Rx Tx	DID/DOD long line. The same definition applies as for COTS.
T2WT	Rx Tx	TIE, 2 wire, Class of Service TRC. The same definition applies as for COTS.
T2WN	Rx Tx	TIE, 2 wire, Class of Service NTC. The same definition applies as for COTS.
T2WV	Rx Tx	TIE, 2 wire, Class of Service VNL. The same definition applies as for COTS.
T4WT	Rx Tx	TIE, 4 wire, Class of Service TRC. The same definition applies as for COTS.
T4WN	Rx Tx	TIE, 4 wire, Class of Service TRC. The same definition applies as for COTS.
T4WV	Rx Tx	TIE, 4 wire, Class of Service VNL. The same definition applies as for COTS.
PAGT	Tx	TIE, E&M 2 paging trunk. The same definition for Tx applies as for COTS. Note that there is no loss value associated with this trunk type in the receive (Rx) direction.
RANR	Rx	TIE, E&M 2 wire RAN trunk. The same definition for Rx applies as for COTS. Note that there is no loss value associated with this trunk type in the transmit (Tx) direction.
ALUS	Rx Tx	ALC unit short line (SHL) Class of Service. Enter the coded input/output relative levels in the receive (Rx) direction and in the transmit (Tx) direction, for this port type. The input range of Rx and Tx for port types associated with analog lines is 0-31 and 8-39 respectively.
ALUL	Rx Tx	ALC unit long line (LOL) Class of Service. Enter the coded input/output relative levels in the receive (Rx) direction and in the transmit (Tx) direction, for this port type. The input range of Rx and Tx for port types associated with analog lines is 0-31 and 8-39 respectively.

Feature operation

No specific operating procedures are required to use this feature.

B34 Dynamic Loss Switching

A codec is a device on an Intelligent Peripheral Equipment (IPE) card which encodes incoming transmission data from analog to digital, and decodes outgoing transmission data from digital to analog. The B34 codec is a four-channel codec providing 32 programmable loss values in 0.5 dB steps in both the transmit and receive directions. The B34 allows transmission parameters, which have been downloaded to the IPE unit, to be changed by software. Since the loss and level requirements differ from country to country, this allows Meridian 1 compliance to the different transmission plans used in the world markets using a single codec. The selected coded levels are downloaded to each unit based on the unit's port type classification. This is referred to as static downloading. These levels will be used for all call connections involving that unit. The B34 Codec Static Loss Plan Downloading feature is therefore used on systems where a single loss setting is sufficient for all types of call connections (this feature is described elsewhere in this publication).

Some markets, however, require adjustments on the loss setting depending on call connection. Existing features in the Meridian 1 already support:

- existing Peripheral Equipment (EPE) cards with the Alternative Loss Plan feature (Australia, New Zealand, and China)
- systems with both EPE and XUT/XEM with the Dynamic Pad Switching feature (North America)

The Dynamic Loss Switching feature provides loss switching on international IPE analog trunks cards (XCOT, XFCOT, XDID, XCO/XDID, XFEM, or any trunk configured with XTRK type of XCOT, XDID, or XFEM).

Typically, there are different vintages of firmware in the field:

- hard-coded B34 firmware, which is hardcoded with country-specific defaults, ignores B34 type 12 messages, and accepts (where applicable) Short Line/Long Line configuration type 5 messages
- flexible B34 firmware with country-specific defaults, which is firmware that is coded with country-specific defaults, accepts (where applicable) Short Line/Long Line configuration type 5 messages, and accepts B34 type 12 messages which override any accepted Short Line/Long Line configuration type 5 messages
- flexible B34 firmware with universal defaults, which is firmware that is coded with a universal B34 loss value default, may or may not ignore Short Line/Long Line configuration type 5 messages, and accepts B34 type 12 messages which override any accepted Short Line/Long Line configuration type 5 messages

To obtain the full functionality of B34 Dynamic Loss Switching, only the two flexible vintages of firmware can be used.

Every time a new connection is established, the following process is followed to determine if and how to adjust the loss involved in the connection:

- the port type of the originator and terminator is determined, based on the configurations of the originator and terminator, respectively
- this port type is used as a row index (originator) and column index (terminator) into a connection matrix, to determine the following:
 - whether to switch the pad in or out for the originator receive direction
 - whether to switch the pad in or out for the originator transmit direction
 - whether to switch the pad in or out for the terminator receive direction
 - whether to switch the pad in or out for the terminator transmit direction
- a message conveying this information is then sent to the originator and terminator, if they are affected port types.

The B34 Dynamic Loss Switching feature, configured on a system basis, introduces flexibility in the loss values to be switched. Where previously the loss values were hardcoded on the analog trunk cards, they are now software-configurable on a per-system basis. The loss switching is still controlled by a connection matrix defined for specific markets. This matrix cannot be changed. The loss levels to be used are configured in a base-level table and alternative-level table in LD 97. The base level table is the same as the one implemented and used by the B34 Static Loss Plan Downloading feature; the alternative level table is a parallel table configured for the B34 Dynamic Loss Switching feature.

These new port types reside on the international IPE cards with flexible B34 firmware and the B34 codec. They have to be distinguished from existing port types because of the different manner in which they are informed of the base level/alternative level information.

Operating parameters

A system must be configured with one or more IPE card equipped with a B34 codec and firmware supporting software downloading. It is the responsibility of the installer to verify that the IPE cards used are compliant with the download messages used by this feature.

The B34 Codec Static Loss Plan Downloading feature must be equipped, since the B34 Dynamic Loss Switching feature uses its base level table.

Since the flexible 8B B34 equipped cards are not backwards compatible to systems running older versions of software, the following upgrade strategy should be followed:

- Systems running software Phase 7C or earlier, and upgrading to Phase 8B software, do not require the new flexible B34 IPE cards if the transmission plan remains the same. These systems may be equipped with a mix of hardcoded B34 IPE cards and new flexible B34 IPE cards; if changing to the new European Telecommunications Standards Institute (ETSI) loss plan, all hardcoded B34 IPE cards must be retrofitted with the new flexible B34 IPE cards.

- Systems changing to a new ETSI loss plan must use the new flexible B34 IPE cards as well as Phase 8B static parameter download software; a hardware retrofit and a software upgrade are also necessary.
- Newly installed systems will use the new flexible B34 IPE cards.

XFALC (Flexible Analog Line Card) is compatible with the download messages supporting Static Loss Plan Downloading. XFALC is not supported in Dynamic Loss Switching.

Connection matrixes are supported for Australia, New Zealand, and Italy. No other countries are supported with this feature.

New flexible B34 equipped XFALC (flexible analog line cards) support Static Loss Plan Downloading using B34 messages. New flexible B34 equipped XFALCs installed in a Phase 7C software environment do not receive download messages, but use the firmware-defined default.

A distinction must be made between long and short lines on Analog Line Cards (ALC), and to download loss plan values based on this setting.

Feature interactions

Alternative Loss Plan

The alternative loss plan tables must be enlarged as the default table is enlarged.

B34 Codec Static Loss Download

B34 Codec Static Loss Download is a prerequisite for B34 Dynamic Loss Switching. Both features share the same definition of port types and use the same base-level table.

When B34 Dynamic Loss Switching is enabled, the Static Download messages to the analog trunk cards are suppressed. Static download to analog line cards continues.

B34 codec static loss download. Since the B34 Dynamic Loss Switching is dependent on B34 Codec Static Loss Download, B34 Codec Static Loss Download must be enabled when B34 Dynamic Loss Switching is enabled. The port types defined for B34 Dynamic Loss Switching are a subset of the port types defined for B34 Codec Static Loss Download.

Also, the base level table used by B34 Codec Static Loss Download is also used by B34 Dynamic Loss Switching. Since B34 Codec Static Loss Download is a prerequisite for B34 Dynamic Loss Switching, B34 Codec Static Loss Download is enabled when B34 Dynamic Loss Switching is enabled. When B34 Dynamic Loss Switching is enabled, the following operations concerning trunk cards are suppressed:

- During initialization, B34 Codec Static Loss Downloading to trunk cards is suppressed, so that loss levels do not change in case there are active calls. Downloading continues to analog line cards.
- In LDs 32 and 36, B34 Codec Static Loss Download is suppressed on enabling the trunk card or unit, so that loss levels do not change in case there are active calls. Downloading continues to analog line cards.
- When reseating the cards, B34 Codec Static Loss Download is suppressed. Downloading continues to analog line cards.
- In LD 14, B34 Codec Static Loss Download is suppressed.
- In LD 10, B34 Codec Static Loss Download is suppressed.

When B34 Dynamic Loss Switching is disabled, all B34 Codec Static Loss Downloads to trunks are suppressed. This introduces the danger of having some cards in the system which are not set with the proper loss levels, since the system has been changed from a dynamic mode to a static mode without activating the download of the static messages. To highlight this change, a SCH5842 error message is generated, indicating to the craftsperson that B34 Dynamic Loss Switching is disabled, and that B34 Static Loss Downloading is now in effect and that a download should be activated by system initialization or SYSLOAD.

When B34 Dynamic Loss Switching is enabled, all B34 Codec Static Loss Download audit messages to trunk cards are suppressed.

Conference

When a conference connection is established, no pads are switched in on the trunk side; any extra loss that is required is provided by the conference circuit, based on an algorithm which takes into account the number of lines and trunks.

Digital Sets Transmission Parameters

The following static parameters, which do not change on a connection basis, may be changed using LD 17:

- sidetone objective loudness rating
- receive objective loudness rating
- transmit objective loudness rating
- handsfree receive objective loudness rating
- handsfree transmit objective loudness rating
- handsfree receive objective loudness rating

Digital Trunk Interface (DTI) Pad Switching

Pad switching for DTI applications is done dynamically, based on the far end's port type. On the DTI side, a loss value is switched on the receive and transmit side, depending on the far end's port type. If the far end is analog, a pad is switched in or out; if the far end is digital, a zero loss is switched in, so that the loss is taken care of only on one side. Connection between DTI/PRI and XDID, XFCOT, and XFEM trunks is not supported, since DTI pad switching does not take care of these trunk types.

The far end side is handled by the normal operation for the trunk type, that is, if the far end is DTI, it is handled according to the DTI pad switching; if it is otherwise, it is handled by the configured matrices. Trunk pads are switched out for EPE trunks. No messages are sent for XDID, XFCOT, and XFEM trunk types. For XUT and XEM trunk types, the loss equivalent to pad out is switched in. For XDID, XFCOT, and XFEM trunks, the base level (static) value is switched in when connected to the DTI2 trunk types.

Echo Suppression

When the echo suppresser is turned on for XEM and XFEM trunks, the pad is switched to out. For XEM and XFEM trunks with B34 port types, the base loss level for the affected port type is switched in to match the operation of switching out the pad.

GEC Plessy Hardware

No losses are sent to XCOT, XDID, and XFEM trunk cards when these cards are connected to GEC hardware, since there is no dynamic switching done for them. On the GEC hardware side of such a connection, the pads are switched in according to the type of trunk (near end) as opposed to what it is connected (far end); therefore, the loss is switched in regardless of whether the connection is to XCOT, XDID, and XFEM trunk cards or other types of cards.

ISDN Basic Rate Interface

It is possible to switch in loss on the ISDN BRI side, based on port types.

MFE/MFC Pads

The Alternative Loss Plan feature allows trunks to be configured so as have pads switched in when an MFC sender/receiver is equipped. For such a configuration, the following occurs for B34 port types:

- pads are switched in for outgoing calls (the trunk is the originator), or
- pads are switched in, if in the dialing state, for incoming calls (the trunk is the terminator).

Off Premise Extension Pad Switching

Pads may be switched on an Off Premise Extension card depending on the type of connection.

XCOT, XFEM, and XDID Cards

XCOT, XFEM, and XDID cards are the suite of international IPE cards which are configured under the XTRK prompt in LD 14. The cards in this suite include XDID/DOD, XFCOT, XFEM, XDID, and XCOT. When B34 Dynamic Loss Switching is enabled, these cards receive B34 messages. Since certain markets do not desire this functionality, B34 Dynamic Loss Switching should not be enabled.

During lamp audit for active calls on XCOT, XFEM, and XDID cards, a type 5 message for pad switching is sent to these cards, based on their configuration. When B34 Dynamic Loss Switching is enabled, the type 5 message is not sent; instead, a B34 message is sent, based on the last loss switching message sent for that call.

XEM and XUT Cards

XEM and XUT cards are the suite of North American IPE cards which are configured under the XTRK prompt in LD 14. The cards in this suite include XUTJ, XUT Hong Kong, XEM, and XUT. When B34 Dynamic Loss Switching is not enabled, there is no change in the operation of pad switching on these cards. When B34 Dynamic Loss Switching is enabled, the expanded portion of the connection matrix is used to determine the processing on the XEM/XUT side of the call and on the B34 port type side of the call. When a decision is made, it is communicated using a B34 message.

Feature packaging

B34 Dynamic Loss Switching requires the following packages:

- Meridian 1 Extended Peripheral Equipment (Meridian 1 XPE) package 203
- International Supplementary Features (SUPP) package 131
- Limited Access to Overlays (LAPW) package 164

Feature implementation

The base and alternate tables are configured in LD 97. The connection matrix is selected in LD 15. Note that the craftsperson must have an authorized password to configure the loss tables. Printing of the tables can be performed without the password.

LD 97 – Configure a loss plan table. Note that the system must be configured with the Limited Access to Overlays (LAPW) package, and that the craftsperson must have an authorized password.

Prompt	Response	Description
REQ	CHG	Change loss plan table.
TYPE	LOSP	The type branch for the system loss plan table. Enter LOSP.

Feature operation

No specific operating procedures are required to use this feature.

Introduced in X11 Release:	24
Networking:	No

Call Capacity Report Enhancement

The Call Capacity Report Enhancement (CCRE) feature improves the stability and accuracy of Meridian 1 traffic reports. The enhancements include:

- data collection will be based on 7 24-hour days
- real-time calculation improvements
- floating point arithmetic support

The Call Capacity Report Enhancement feature does not require user operation changes. Meridian 1 traffic reports will contain the same number of fields in the same format as the current TFS004 report.

Call Connection Restriction

Call connection restrictions are configured at call set-up, to control user access to the private and public networks and associated services and features.

Within a networking environment, call set-up restrictions are used to prevent certain trunk-to-trunk connections, to prevent certain stations from accessing the public network via the private network, and to prevent trunk lock-ups and poor connections across the network. If a restricted call is made, customer-defined intercept treatment is applied.

The Call Connection Restriction product improvement allows limiting conditions to be placed on call connections across an Integrated Services Digital Network (ISDN). Call configurations which would degrade transmission integrity or network performance are prevented.

The following conditions are placed on network call connections:

- No more than one trunk without disconnect supervision can be used in a call connection. Otherwise, trunk lock-up could occur within the network. (This also applies to call-joined connections. Two call connections cannot be joined if each makes use of a trunk without disconnect supervision.)
- Tandem nodes are limited, to prevent potential transmission problems. The maximum number of tandem nodes to be allowed in a call connection can be set between 0 and 31, by way of service change.
- Public Switched Telephone Network (PSTNs) can be limited. If so specified, only a single PSTN is permitted in a call connection; or, an unlimited number of PSTNs can be allowed.

- μ /A-Law conversions are limited, to prevent potential transmission problems. The maximum number of conversions to be allowed in a call connection can be set between 0 and 31, by way of service change.
- Satellite delays are limited. The maximum number of Satellite delays to be allowed in a call connection can be set between 0 and 5, by way of service change.

These call limitations will only apply within an ISDN environment. For this product improvement to be effective, ISDN connectivity must be available between the originating and terminating nodes.

This feature is more fully described in the *International ISDN PRI feature description and administration*.

Operating parameters

This feature applies only to the Integrated Services Digital Network (ISDN) environment.

When calls are joined, it is possible to produce a call connection which violates some of the call-connection restrictions. Under these conditions, it is possible to exceed the limits on tandem nodes, μ /A-Law conversions and network call redirections.

Feature interactions

Multiple Call Modifications

With the use of multiple call transfers, conferencing and other manipulations, it is possible to bypass this product improvement's control of the number of unsupervised trunks in a call connection. In these situations, other ISDN call-connection limitations may also be overcome.

Satellite Link Control

The Call Connection Restriction product improvement overrides the Satellite Link Control feature. Whereas the Satellite Link Control feature limited the number of Satellite access lines or intermachine trunks to one, the Call Connection Restriction product improvement allows this limit to be service changeable.

Feature packaging

Call Connection Restriction requires the following packages:

- ISDN 1.5 Mbit Primary Rate Access (PRA) package 146 or ISDN Signaling Link (ISL) package 147
- ISDN Supplementary Features (ISDNS) package 161

The following packages are also required:

- Attendant Break-in/Trunk Offer (BKI) package 127
- Multi-party Operations (MPO) package 141
- Network Attendant Service (NAS) package 159

Feature implementation

For implementation procedures, refer to the *International ISDN PRI feature description and administration* .

Feature operation

No specific operating procedures are required to use this feature.

Call Detail Recording

Call Detail Recording (CDR) records information about selected calls for accounting purposes. For each call, CDR identifies the calling and called parties and notes the time and duration of the call. A record describing the complete call is output by the Meridian 1 system when the call is terminated. The following five recording options are available and can be specified by the customer in any combination for each trunk route:

- all outgoing calls
- all outgoing toll calls
- outgoing answered calls
- outgoing answered toll calls
- all incoming calls

For outgoing calls, all calls seizing a trunk in that route are recorded from the time of trunk seizure, no matter how long or short the call is. If answer supervision is allowed on the Meridian 1 system, calls placed over tandem TIE trunks are billed from the time the call is answered. The caller is not charged the time it takes for dialing, digit outputting, or ringing.

For incoming calls, all calls answered by a telephone or Attendant Console are recorded.

Three output options are available:

- System terminal: CDR system terminal (CTY)
Information is output in ASCII serial format suitable for a system terminal or equivalent device.

- Magnetic tape: CDR Data Link (CLNK)
Information is output in binary format to a QCA11 CDR machine for downstream processing.
- Both system terminal and magnetic tape.

The Meridian 1 system provides access to as many as 16 input/output ports, which can include any combination of designated CDR system terminal (CTY) or CDR Data Link (CLNK) ports. Because each customer on a Meridian 1 can access multiple CDR ports, system terminal and magnetic tape CDR recording machines can be used at the same time for the same customer.

For further information on CDR, please refer to *Call Detail Recording description and formats* 553-2631-100.

Introduced in X11 Release:	All
Networking:	No

Call Forward All Calls

Call Forward All Calls (CFW) automatically forwards incoming calls to another destination, within or outside the Meridian 1 system. Only calls to the Prime DN or any single-appearance DN on the telephone are forwarded. Outgoing calls can still be placed from the telephone when Call Forward is active.

X11 Release 19 and later provides the following additional capabilities. First, it supports selectively activating Call Forward depending on the source of the originating party. With the Internal Call Forward (ICF) feature, the user can cause only internal calls to be forwarded. Second, the Call Forward Reminder Tone (CFRT) presents special dial tones on analog (500/2500 type) telephones with CFW active. One tone indicates that CFW is active; a second indicates that there is a message waiting for the telephone with CFW active.

Call Forward All Calls, as well as Internal Call Forward, is assigned on a per-telephone basis. Meridian 1 proprietary telephones must be equipped with separate key/lamp pairs to allow the activation and deactivation of each feature. Customers can specify the length of the destination number in LD 11. Options are 4, 8, 12, 16, 20, or 23 digits. If you enter another number for the length, the system rounds to the nearest acceptable choice. The default is 16 digits.

When you use Multiple Appearance DN (MADN), call redirection is determined based on the Terminal Number (TN) order in your DN block. To determine the TN order, print the DN block from LD 20 or LD 22 (TYPE = DNB). When a call comes in to an MADN, the system begins a search to determine how the call will be handled. Using the TN list you printed, the system performs the following search, beginning at the bottom of the TN list, and working up.

- 1 Searches for the first Prime DN appearance of the MADN with Call Forward All Calls activated.
- 2 If there are no Prime DN appearances, the Call Forward All Calls cannot be activated.

Note: The search does not necessarily determine the lowest numerical TN. The search starts at the bottom of the TN list.

Operating parameters

The forwarding of a call depends on the access restrictions assigned to the telephones and the trunks involved in the call. If call forwarding results in a connection that is not permitted by the assigned access restrictions, the incoming call is not forwarded.

The customer can specify which telephone determines the successful completion of the call: the originating telephone or the forwarding telephone.

Internal Call Forward requires a programmable feature key. Therefore, Internal Call Forward is not supported on BRI telephones.

With X11 Release 19 and earlier, Call Forward status information is lost during a SYSLOAD. With X11 Release 20 and later, LD 17 CFWS allows telephones to have their CFW status saved as part of the data dump routine and then reinstated following a SYSLOAD. For more information, refer to the Call Forward Save module.

Call Forward Reminder Tone does not apply to telephones such as the SL-1 that have a visual indication of active CFW status.

The Reciprocal Call Forward All Calls option prevents the situation whereby an infinite loop is caused in a network-wide Call Forward configuration resulting from telephone A being call forwarded (all calls) to telephone B at another node, which in turn has been call forwarded back to telephone A. A check is provided via the Flexible Orbiting Prevention Timer (FOPT), which prohibits any telephone from call forwarding more than one call off node for a period of 14 seconds.

X11 Release 20 or later allows the Flexible Orbiting Prevention Timer, previously fixed at 14 seconds, to be set during Service Change from 0 to 30 seconds (even numbers only). If a value of 0 is defined, then Orbit Prevention is disabled and call forwarding is not inhibited in any way.

The Orbit Prevention protection, however, does not extend to all potential orbiting situations. Improperly engineered networking or multiple switching arrangements can produce orbiting.

Feature interactions

Advice of Charge for EuroISDN

Calls charged with Advice of Charge that are either transferred, extended or redirected to another set via Call Forward All Calls are charged against the last set that answers the call and the controlling set releases. Additionally, the last party that transfers or forwards a call to an ISDN Central Office trunk is charged for both connections.

Attendant Alternative Answering

Call Forward All Calls takes precedence over all other Call Forwarding features for a particular telephone. Calls forwarded by Attendant Alternative Answering (AAA) are subject to the Call Forwarding conditions on the AAA DN.

Attendant Blocking of Directory Number

The Attendant Blocking of DN feature will override Call Forward All Calls. If the dialed DN of the set is idle, the DN can be blocked; if the DN is busy, busy tone will be heard.

Attendant Break-In

The attendant can override call forwarding on a destination DN by pressing the Break-In key before dialing the destination DN. The attendant may not apply Camp-On to a telephone with Call Forward active.

Attendant Break-In to Inquiry Calls

The operation of Call Forward All Calls is overridden on a analog (500/2500 type) telephone that has inadvertently been placed on-hook during a Break-In conference to allow it to be re-rung by the attendant.

If the controlling party goes on hook in a Break-In conference, and is being re-rung by the attendant, the ringing takes precedence over Call Forward All Calls that may be applied to the set.

Attendant Busy Verify

If the DN is call forwarded to the Attendant Console, the attendant will receive a click followed by silence.

Attendant Overflow Position

If the telephone assigned an Attendant Overflow DN has activated the Call Forward All Calls feature, overflow calls are not rerouted to the telephone. If a analog (500/2500 type) telephone is forwarded, AOP is canceled.

Call Forward Destination Deactivation

If a user's call forwarded Directory Number (DN) is defined as DN of Set B and set A dials the CFW FFC to activate call forward, then Set A gets forwarded to Set B. Set B can deactivate CFW on set A by dialing the Call Forward Destination Deactivation (CFDD) FFC.

Call Detail Recording on Redirected Incoming Calls

The Call Detail Recording on Redirected Incoming Calls feature does not affect how the Call Forward All Calls feature operates; however, it does provide information about the answering party in the Call Detail Recording ID field if incoming calls have been redirected by any one of these features.

Call Forward and Busy Status

Call Forward All Calls must be assigned to Party A's telephone to enable the Call Forward Status function, which allows party B to monitor and alter the Call Forward state of party A's telephone.

Call Forward by Call Type

If a call is unanswered at the forwarded DN, the telephone that has Call Forward All Calls activated is checked for the Class of Service and the call forward DN. If a chain of call forwarding occurs, the Class of Service and the forward DN for Call Forward No Answer are obtained from the first telephone in the chain. This applies when FDN and HNT have been specified for Call Forward No Answer at the customer level.

Prior to X11 Release 10, when HNT was specified for Call Forward No Answer, the Class of Service and Hunt DN for Call Forward No Answer were obtained from the last telephone in the chain.

Call Forward External Deny

This feature overrides other Call Forward All Calls parameters. For example, if Call Forward to Trunk Access Code (CFTA) is allowed for the customer, but Call Forward External Deny (CFXD) is enabled for the telephone, CFXD takes precedence and call forwarding to a trunk access code is denied.

Call Forward/Hunt Override Via Flexible Feature Code

The Call Forward All Calls feature is overridden by the Call Forward/Hunt Override Via FFC feature, but there are no changes to the feature itself.

Call Forward, Internal Calls

If Call Forward Reminder Tone Allowed (CFRA) is in effect, whenever an analog (500/2500 type) telephone with Internal Call Forward active goes off hook to originate a call, the telephone sounds the reminder tone. The reminder tone is either Call Forward Dial Tone (CFDT) or Call Forward/Message Waiting Dial Tone (CFMW).

Call Forward No Answer

Suppose that party A calls party B, and party B has programmed Call Forward All Calls to party C. Flexible Call Forward No Answer will forward a No Answer call at party C to the FDN associated with party B, the dialed DN.

Call Forward No Answer, Second Level

Both first and Second Level Call Forward No Answer use the final (ringing) telephone in the chain to obtain Class of Service and forwarding DN information.

Call Forward Save on SYSLOAD

The Call Forward status of each telephone can be saved as part of the data dump routine and reinstated following a SYSLOAD operation.

Call Page Network Wide

Call Page Network Wide (PAGENET) does not block a station set from being programmed to Call Forward All Calls to an external Paging trunk. At call termination time, calls that are forwarded to an external PAGENET uncontrolled trunk are not blocked. However, calls forwarded to an external PAGENET controlled trunk are given access denied intercept treatment at the Paging node.

Call Redirection by Time of Day

Call Forward All Calls has precedence over Call Redirection by Time of Day.

Calling Party Name Display Denied

During a Call Forward or Call Transfer, the calling party digits and forwarding/transferring party digits are displayed on the terminating set. This display is allowed or denied depending on the Class of Service of the calling set and the forwarding/transferring set. The name of the forwarding/transferring set is not displayed on the calling and terminating set.

Calling Party Privacy

When an incoming trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be tandemmed to the far end to inhibit the display of the Calling Party Name or Number provided that the tandem node also has Calling Party Privacy (CCP) provisioned.

The CCP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outputted to the terminating node to inhibit the number of the forwarding set (i.e., at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

Call Forward Busy
Call Waiting
Call Waiting Redirection
Camp-On
Camp-On, Station

Call Forward All Calls has precedence over Call Forward Busy, Call Waiting, Call Waiting Redirection, Camp-On and Station Camp-On.

China – Attendant Monitor

If an attendant attempts to monitor a DN which is Call Forwarded and is idle, idle DN treatment is given.

China – Flexible Feature Codes - Customer Call Forward

When Customer Call Forward (CCFW) is active CFWAC cannot be activated by Flexible Feature Code, but can be activated by SPRE. When CFWAC is active, CCFW cannot be activated.

CCFW can be deactivated by deactivating CFWAC. CFWAC can only be deactivated by the CCFD FFC if the current CFW DN is the same as the current CCFW DN.

China – Flexible Feature Codes - Outgoing Call Barring

When a set with Outgoing Call Barring active activates CFWAC with a new CFW DN, the CFW DN is tested against the current barring level. If the DN is not allowed to be dialed, it can also not be used as a Call Forward DN. This is to prevent a set from forwarding to a barred DN and then dialing its own DN to bypass the restrictions.

China – Toll Call Loss Plan

Toll pad switching is also provided after call forwarding has been completed. When the toll call is diverted, the diverted party's pad level is switched back to its original value (unless it is an OPS station using dynamic switching). The Toll Loss Plan is applied again for the new call as if it is a direct call. For Call Transfer, it is provided after the transferring party completes the transfer and drops out. For Call Forward or Hunting, it is provided when the forwarding or hunting call is answered.

Conference

On analog (500/2500 type) telephones, Call Forward All Calls can be activated or canceled during a conference call.

Display of Calling Party Denied

When a set activates any of the call forwarding features, the displays given on the calling set and the terminating set are in accordance with the Class of Service of the sets involved in the call.

If the terminating set has Dialed Name Display Denied (DNDD), the display on the terminating set reflects the name and number of the calling party and the name and the number of the forwarding set.

If the terminating set has Dialed Name Display Allowed (DNDA), the display on the terminating set reflects the number of the calling party and the name and number of the forwarding set. In both cases, the terminating set's display is in accordance with the DPD Class of Service options of the calling and forwarding sets.

For a MCDN ISDN call, the calling party's Calling Line Identification (CLID) is replaced with the ISDN route access code (ACOD) and the route member number, and the calling party's name is replaced by a string of four Xs (X X X X).

The display given on the calling set of an internal call, which has been forwarded to a set within the same switch, includes the name and number of the terminating set along with the number of the forwarding set. If the DPD Class of Service options, which are specified for the terminating set, indicate that the display of the name and number of the terminating set be denied, then on the calling set, the name of the terminating set is replaced by a string of four Xs (X X X X). The number is replaced by dashes (- - - -). If the number of the terminating set is blocked from being displayed on the calling set, the number of the forwarding set is also blocked from being displayed on the calling set, regardless of the DPD Class of Service options of the forwarding set. Conversely, if the display of the terminating set's number is allowed in the calling set, then the number of the forwarding set is also displayed on the calling set, irrespective of the DPD Class of Service options of the forwarding set.

Do Not Disturb

If activated, Call Forward All Calls will take precedence over Do Not Disturb busy indication.

DPNSS1 Diversion

Call Forward All Calls on unanswered calls are activated in the following order: Call Forward All Calls, Message Waiting, Call Forward No Answer, Slow Answer Recall. For busy sets the order is: Call Forward All Calls, Hunting, Calling Waiting/Camp On, Message Waiting Busy Forward, Call Forward Busy.

Electronic Lock Network Wide/Electronic Lock on Private Lines

For Call Forwarding, the COS and NCOS used for the forwarding call can be taken from either the forwarding set or from the forwarded set, depending on the option defined in the Customer Data Block.

For example, set B call forwards all calls to an external trunk. Set A calls set B. If OPT = CFF in LD 15 (Call Forward forwarded to party's COS and NCOS), the COS and NCOS of set B are used for forwarding the call to the trunk. If OPT = CFO (Call Forward originating party's COS and NCOS), the COS and NCOS of set A are used for forwarding the call to the trunk.

Flexible Feature Code Boss Secretarial Filtering

Although Call Forward All Calls and Flexible Feature Code Boss Secretarial Filtering can be equipped on the same set, they cannot both be active at the same time. There is no precedence of one over the other; it is not possible to activate one if the other is active on the set.

Flexible Feature Codes

When Flexible Feature Codes (FFC) are configured for a customer, #1 automatically becomes the FFC DN for both Call Forward Activate (CFWA) and Call Forward Deactivate (CFWD). When the same DN is used for both CFWA and CFWD, FFC toggles the call forward activated/deactivated state of the telephone. When call forward is activated for a telephone, entering #1 automatically deactivates call forward, no matter what follows #1. When call forward is deactivated for a telephone, the result of entering #1 depends on what follows #1:

- If the telephone goes on hook immediately, Call Forward is activated for the telephone to its previous Call Forward number.

- If a valid DN is entered after #1, Call Forward is activated for the telephone to that valid DN.
- If an invalid DN is entered after #1, Call Forward remains deactivated for the telephone.

Flexible Voice/Data Terminal Number

Voice calls directed to a dynamic voice/data Terminal Number are forwarded, if either of these features are enabled. Data calls, to a dynamic voice/data TN, are not forwarded.

Group Call

A Group Call to a telephone with Call Forward active is forwarded one step only. The Call Forward number must be a valid DN.

Group Hunt

When Group Hunting attempts to terminate on a DN which has CFW All Calls active, it will continue with the next DN in the group if the attempted DN is busy, or if the DN is idle and the response to the Call Forward Ignore (CFWI) prompt in LD 57 is "NO". If the attempted DN is idle and the response to the CFWI prompt in LD 57 is "YES", then Group Hunting will terminate and the stations associated with the DN will be rung.

Hunting

Call Forward All Calls takes precedence over Hunting.

ICP Network Screen Activation, Flexible DN, Meridian Mail Interactions

When a call redirected by Call Forward All Calls, Call Forward No Answer, Call Forward Busy, or Hunt terminates on an Intercept Computer (ICP) position, a redirected message identification "50" is sent to the ICP computer, when the call is answered.

Idle Extension Notification

When an extension that is being supervised for Idle Extension Notification becomes idle, it has the ability to make outgoing calls. If Call Forward All Calls or Intercept Call Forward are activated at the extension before the attendant presses the SACP key to ring that extension, the attendant's call will be forwarded to the Call Forward destination. The attendant display will show both the call forward DN, as well as the original extension's DN.

If the Call Forward DN is busy, SACP can be activated towards the Call Forward DN, if all the requirements for allowing Idle Extension Notification are met by this DN.

Incoming Call Indicator Enhancement

When a Direct Inward Dialing (DID) call to station that is unrestricted from receiving DID calls (UDI Class of Service) is forwarded to a UDI station due to Call Forward All Calls or Call Forward Busy, the call is RDI-intercepted to the attendant. The attendant display shows the DN of the dialed party.

If the call has been forwarded to the attendant, the Call Forward All Calls/Call Forward Busy ICI lights up, and not the RDI-intercept ICI.

ISDN QSIG Name Display

When an incoming QSIG call, with name display presentation allowed Name Display, is forwarded locally, the calling party's name information is displayed on the forwarding set. With presentation restriction, the calling party's name information is not displayed to the destination set.

Make Set Busy

Call Forward All Calls takes precedence over Make Set Busy.

Message Registration

The party that originates a call is charged. The charge cannot be moved to another party using Call Forward All Calls.

Multi-Party Operations

A set which has activated Call Forward All Calls can still initiate calls and become the controlling party of a consultation connection. In this case, if the set mis-operates, then Multi-Party operations while re-ringing the controlling party as a part of mis-operation recovery ignores the Call Forward All Calls indication present on the controlling party.

Multiple Appearance Directory Number Redirection Prime

X11 Release 18 and later support Multiple Appearance Redirection Prime (MARP). This affects how call redirection operation is defined. Refer to the MARP module in this document for details.

Network Intercom (Hot Type D and Hot Type 1 Enhancements)

Hot Type I calls respect or override all kinds of Call Forward features (Busy, No Answer, All Calls, Internal, etc.) according to per-set definitions. If Call Forward is respected, the call becomes a normally dialed call and the originator will receive the appropriate indication on their display.

Network Individual Do Not Disturb

Call Forward All Calls takes precedence over Do Not Disturb Individual (DNDI) treatment.

Night Service Enhancements

Any call which has been presented to the Attendant Overflow Position cannot be removed from the console and requeued by pressing the Make Set Busy (MSB) key. The call will only be removed if the Attendant Forward No Answer feature is active, and the Attendant Forward No Answer Timer has timed out. In this case, the call is requeued and the Attendant Overflow Position is idled.

Paging

Calls that originate on a TIE trunk to a telephone that is redirected to a paging route are blocked.

Periodic Pulse Metering

Metered calls transferred or extended from one station to another using the Call Forward All Calls feature are charged against the last station at which the call is answered as the controlling station releases. The last party to forward a call onto a metered Periodic Pulse Metering trunk is charged.

Phantom Terminal Numbers (TNs)

Call Forward All Calls is used in conjunction with Remote Call Forward (RCFW) to redirect incoming calls from a phantom TN/DN to a valid DN.

Call Forward cannot be overridden on phantom TNs. Overflow tone occurs if an override is attempted.

Recorded Announcement for Calls Diverted to External Trunks

If a call is forwarded to an outgoing external Central Office (CO) route with the Recorded Announcement for Calls Diverted to External Trunks (RANX) flag set, RANX is activated.

Recovery on Misoperation of Attendant Console

Call Forward takes precedence over the Misoperation feature.

Ring Again on No Answer

If an unanswered call is forwarded to another station by Call Forward All Calls, Ring Again on No Answer is applied to the originally dialed station.

SPRE

SPRE access codes cannot be used as CFW DN's. If an attempt is made to program an SPRE access code as a CFW DN, the overflow tone is given at the time of CFW activation.

Total Redirection Count

Call Forward All Calls redirection is limited to the value defined in the Total Redirection Count limit (if greater than 0). If this limit is exceeded, intercept treatment is given.

Trunk Access Codes

X11 Release 12 and later provides an option in LD 15 to allow or disallow telephones to program Call Forward All Calls to a Trunk Access Code. See Call Forward External Deny.

Trunk Barring

If an Originating Trunk Connection is forwarded to a barred route, it receives the intercept treatment specified in the Customer Data Block.

User Selectable Call Redirection

When CFW redirects a call from telephone A to telephone B, and telephone B does not answer, the Ringing Cycle Options of telephone B determines how long it rings. After the designated number of rings, the Flexible Call Forward No Answer of telephone A redirects the call.

Feature packaging

Internal Call Forward requires the 500 Set Dial Access to Features (SS5) package 73 for analog (500/2500 type) telephones, and the Flexible Feature Codes (FFC) package 139. Call Forward Reminder Tone is packaged with the Call Forward All Calls feature.

Feature implementation

On an analog (500/2500 type) telephone, the user accesses the Call Forward All Calls and Internal Call Forward features by dialing either the SPRE plus the feature code, or the appropriate Flexible Feature Codes (FFCs). On a digital telephone, the user accesses each feature via its feature key.

Activating the features requires service changes to LDs 15, 10/11, and 57.

LD 15 – Define Class of Service for Call Forward All Calls.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB RDR	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- OPT	(CFO) CFF	(CFO) = Calling party Class of Service is active during Call Forward All Calls. CFF = Forwarding party Class of Service is active during Call Forward All Calls.
	(PVCA) PVCD	Prevention of reciprocal Call Forward (allowed) or denied.
- CFTA	(NO) YES	(Deny) allow telephones to Call Forward All Calls to a Trunk Access Code.
- OPT	(CFRD) CFRA	Call Forward Reminder Tone (denied) allowed for analog (500/2500 type) telephones.

Note: In LD 56 the XCT Tone Code (XCAD) default value is set to 0. If the XCAD prompt is not changed in LD 56, an Analog 500-type set will not receive Call Forward Reminder Tone (CFRT) even if it has been enabled in LD 15 (OPT = CRFA).

LD 10 – Add/change Call Forward All Calls and Internal Call Forward for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
FTR	CFW xx yyyy...y	<p>Allow Call Forward All Calls, where:</p> <p>xx = maximum number of digits in the CFW DN. Prior to X11 Release 22, valid entries are: 4, 8, 12, (16), 20, and 24. For X11 Release 22 and later, valid entries are any integer in the range of (4)-31. yyyy = number where calls are forwarded.</p> <p>Note: YYYY cannot be entered from the maintenance terminal. When the telephone information is printed in LD 20, yyyy shows the call forward number.</p>
FTR	ICF xx	<p>Allow Internal Call Forward, where:</p> <p>xx = maximum number of digits in the Forward DN. Prior to X11 Release 22, valid entries are: 4, 8, 12, (16), 20, and 23. For X11 Release 22 and later, valid entries are any integer in the range of (4)-31.</p>

LD 11 – Add/change Call Forward All Calls and Internal Call Forward for Meridian 1 proprietary telephones:

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
KEY	xx CFW yy zzzz...z	Define Call Forward All Calls, where: xx = key number; M2317 must use key 22 yy = maximum number of digits in the CFW DN. Prior to X11 Release 22, valid entries are: 4, 8, 12, (16), 20, and 23. For X11 Release 22 and later, valid entries for M2317 and M3000 sets are any integer in the range of (4)-23. For all other Meridian 1 proprietary type sets, valid entries are any integer in the range of (4)-31. zzzz = number where calls are forwarded.
KEY	xx ICF yy zzzz	Define Internal Call Forward, where: xx = key number yy = maximum number of digits in the Forward DN. Prior to X11 Release 22, valid entries are 4, 8, 12, (16), 20, and 23. For X11 Release 22 and later, valid entries are any integer in the range of (4)-31. zzzz = number where calls are forwarded.

LD 57 – Add/change Flexible Feature Codes for Internal Call Forward.

Prompt	Response	Description
REQ	NEW CHG OUT	Add, change, or remove an FFC table.
TYPE	FFC	Flexible Feature Code.
CODE	ICFA ICFD ICFV	Access code for Internal CFW Activate. Access code for Internal CFW Deactivate. Access code for Internal CFW Verify.
ICFA	xxxx	Internal CFW Activate Code (ICFD and ICFA may share the same code).
ICFD	xxxx	Internal CFW Deactivate Code (ICFD and ICFA may share the same code).
ICFV	xxxx	Internal CFW Verify Code.

Feature operation

To forward all calls from a Meridian 1 proprietary telephone:

- 1 Press **Forward**.
- 2 Dial the number where calls are to be forwarded.
- 3 Press **Forward**.

To forward internal calls only from a Meridian 1 proprietary telephone:

- 1 Press **Internal Call Forward**.
- 2 Dial the number where calls are to be forwarded.
- 3 Press **Internal Call Forward**.

To cancel Call Forward All Calls:

- Press **Forward**.

To cancel Internal Call Forward:

- Press **Internal Call Forward**.

To forward calls from an analog (500/2500 type) telephone:

- 1 Lift the handset and dial SPRE 74
 or lift the handset and dial #1 (2500 telephone)
 or lift the handset and dial the Call Forward Allowed FFC.
- 2 Dial the number where calls are to be forwarded.
- 3 Hang up.

Note: If you deactivate Call Forward, then reactivate without changing the number, calls will be forwarded to the previously established CFW DN.

To forward internal calls from an analog (500/2500 type) telephone:

- 1 Lift the handset and dial SPRE 9914
 or lift the handset and dial the Internal Call Forward FFC.
- 2 Dial the number where calls are to be forwarded.
- 3 Hang up.

To cancel Call Forward All Calls:

- Lift the handset and dial SPRE 74
 or lift the handset and dial #1 (2500 telephone)
 or lift the handset and dial the Call Forward Deny FFC.

To cancel Internal Call Forward:

- Lift the handset and dial SPRE 9914
 or lift the handset and dial the Internal Call Forward Deny FFC.

Call Forward and Busy Status

The Call Forward and Busy Status feature was designed for an environment where Party A forwards calls to Party B for screening.

When equipped with a Busy/Forward Status (BFS) key-lamp or key-Liquid Crystal Display (LCD) pair, Party B can perform the following:

- monitor, activate, or deactivate Call Forward for Party A
- override Call Forward of Party A, in order to place a call to Party A or
- determine whether Party A is busy on a call

The BFS key-lamp or key-LCD pair serves a dual purpose. The Busy Status function indicates to Party B, via lamp or LCD state, whether Party A is busy or not. The Call Forward Status function allows Party B to monitor and alter the Call Forward state of Party A. Therefore, the BFS lamp or LCD state of Party B may indicate that Party A is in any one of the following four possible states:

- Call Forward activated and not busy
- Call Forward activated and busy
- Call Forward deactivated and not busy or
- Call Forward deactivated and busy

The BFS key also acts as an Autodial (ADL) key. To use the BFS key as an ADL key to call Party A, Party B goes off-hook and presses the BFS key for Party A.

Busy Status

The Busy Status portion of the feature indicates if Party A is busy for any of the following reasons:

- call active on a Directory Number (DN) key (SCR, SCN, MCR, or MCN)
- has Make Set Busy (MSB) activated
- has Do Not Disturb (DND) activated
- call active on a Group Call (GRC) key
- call active on a Private-line non-ringing (PVN) or Private-line Ringing (PVR) key
- Party A ringing
- if Party A is a Meridian 1 proprietary telephone and has call on Hold or
- if Party A is an analog (500/2500 type) telephone and has a call on permanent Hold

Call Forward Status

The Call Forward portion allows Party B to monitor and alter the Call Forward state of Party A. Party A may be either an analog (500/2500 type) telephone or Meridian 1 proprietary telephone and must have Call Forward All Calls equipped. The Call Forward and Busy Status feature introduces a modification to the Call Forward All Calls feature functionality. The modification is activated or deactivated on a customer-wide basis by the response to OPT in LD 15. The OPT responses are "FKD" (Forward Key Denied) and the default setting "FKA" (Forward Key Allowed).

Operating parameters

Party B must be using an SL-1, M2000-series or Meridian Modular telephone. Party A may have an SL-1, M1000-series, M2000-series, M3000, Meridian Modular or 500/2500-type telephone, with Call Forward All Calls (CFAC) equipped. The operating parameters are the same as for CFAC.

A station may be monitored by a maximum of 16 other stations using the BFS key.

The monitored and monitoring stations must all belong to the same customer.

Feature interactions

Attendant Blocking of Directory Number

The Attendant Blocking of DN feature will override these Call Forward and Busy Status. If the dialed DN of the set is idle, the DN can be blocked; if the DN is busy, busy tone will be heard.

Autodial

Party A can use the Busy/Forward Status key as an Autodial key to dial Party B.

Call Forward All Calls

Call Forward All Calls must be assigned to Party A's telephone to enable the Call Forward Status function, which allows Party B to monitor and alter the Call Forward state of Party A's telephone.

Call Forward/Hunt Override Via Flexible Feature Code

Call Forward and Busy Status is overridden by the Call Forward/Hunt Override Via FFC feature, but there are no changes to the feature itself.

Call Forward, Remote (Attendant and Network-Wide)

When the call forward status of a BFS station is changed from a telephone or attendant-based Remote Call Forward feature, the BFS lamp(s) associated with that station are updated accordingly.

Flexible Feature Code Boss Secretarial Filtering

If the secretary set is a Meridian 1 proprietary telephone, or a compact digital set, it may be equipped with a Call Forward and Busy Status (BFS) key/lamp pair, to perform the following:

- monitor the status of the Call Forward feature on a boss set
- activate/deactivate the Call Forward feature on a boss set
- monitor whether or not a boss set is busy on a call, and
- override the Call Forward All Calls feature on a boss set, in order to place a call to the boss set.

The above functions, however, can only be performed by the secretary set while it is in an unattended state, since BFS and Flexible Feature Code Boss Secretarial Filtering cannot be active simultaneously.

Network Intercom

In a Secretarial filtering scenario, the secretary's Busy/Forward Status (BFS) lamp also will reflect that the boss' set is busy if the boss is on a Hot Type I call.

Phantom Terminal Numbers (TNs)

Attempting to define a BFS key for a phantom TN results in an error message at the beginning of the phantom loop.

Feature packaging

Call Forward and Busy Status is included in base X11 system software.

Feature implementation

LD 15 – Respond to the OPT prompt with either FKA, the default, (Forward Key Allowed), or FKD (Forward Key Denied) to select the Call Forward All Calls mode of operation.

Prompt	Response	Description
REQ	CHG NEW	Modify or create data block.
TYPE	CDB RDR	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
...		
NCOS	...	
- OPT	(FKA) FKD	Forward Key (Allowed) Denied — determines whether Call Forward keys on user sets for this customer are operational.

LD 11 – For each telephone set to be given a Busy/Forward Status (BFS) key, respond to the KEY prompt with 0-69 BFS lll s cc uu where 0-69 is the key number and lll s cc uu is the TN of the monitored telephone set.

Prompt	Response	Description
REQ	CHG NEW	Request: Modify or create data block.
TYPE	xxxx	Type of data block.
...		
LANG	...	
KEY	0-69 BFS l s c u c u	Key number (0-69), Busy/Forward Status (BFS), Terminal Number (TN) of set to be monitored (l s c u; c u for Option 11C).

LD 20 – This overlay is modified to print the new BFS key type and related information.

Prompt	Response	Description
REQ	PRT	Request: Print data block.
TYPE	xxxx	Type of data block.
TN	...	

LD 21 – This overlay is modified to include the FKA or FKD setting as part of the OPT setting printout.

Prompt	Response	Description
REQ	PRT	Request: Print data block.
TYPE	CDB	Type of data block: Customer Data Block.
CUST	xx	Customer number.

Feature operation

Call Forward Status

With FKA, the default, selected Party A's Call Forward (CFW) key-lamp or key-LCD pair operation is unaffected and depressing Party B's BFS key will result in one of the following:

- If Party A does not currently have Call Forward activated, Party A has Call Forward activated to Party B's DN and Party A's CFW lamp or LCD is activated.
- If Party A already has Call Forward activated to Party B's DN, Party A has Call Forward deactivated and Party A's CFW lamp or LCD is deactivated.
- If Party A already has Call Forward activated to a DN other than Party B's, Call Forward is left as is.

With FKD selected Party A's CFW key-lamp or key-LCD pair operation is modified so that the pair is usable as an indicator only, the key is disabled, and depressing Party B's BFS key will result in one of the following:

- If Party A has Call Forward active to the DN of a BFS key equipped set other than Party B, Call Forward is left as is.
- If Party A has Call Forward active to a remote DN and Call Forward was activated by a remote FFC, the existing Call Forward DN is overridden and all new calls are forwarded to Party B's DN.
- If Party A has Call Forward active to Party B's DN, Party A's Call Forward is deactivated and Party A's CFW lamp or LCD is deactivated.
- If Party A does not have Call Forward active, Call Forward is activated to Party B's DN and Party A's CFW lamp or LCD is activated.

BFS lamp or LCD states

Party B's BFS lamp or LCD reflects the status of Party A's set in terms of both the Busy or Idle and the Call Forward states. The following table gives the possible BFS lamp or LCD states for the various states Party A can be in:

Party A's set	Party A's Call Forward	
	Deactivated	Activated
Idle	Dark	Wink = Fast Flash
Busy	Lit	Flash

Where:

Dark – indicates lamp or LCD is off.

Wink – indicates lamp or LCD is winking at 60 impulses per minute (ipm) (0.875 seconds on, 0.125 seconds off).P402402

Lit – indicates lamp or LCD is on

Flash – indicates lamp or LCD is flashing at 30 ipm (0.5 seconds on, 0.5 seconds off).

Call Forward Destination Deactivation

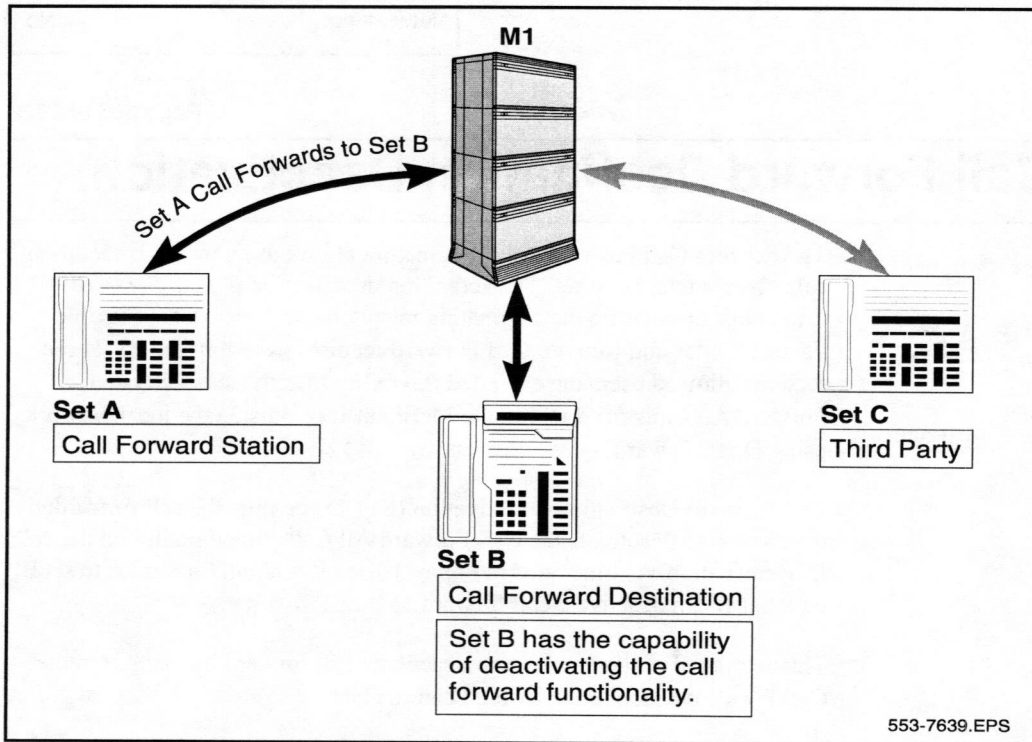
The existing Call Forward All Calls feature allows users to divert incoming calls from a telephone set. The activation/deactivation of Call Forward All Calls must occur from the originating telephone. In Release 15, Flexible Feature Codes and Remote Call Forward features were introduced. These features allowed users the extended flexibility to activate/deactivate Call Forward All Calls from within the Meridian 1, or outside the local network using Direct Inward System Access.

Call Forward Destination Deactivation (CFDD) permits the call forwarded destination to deactivate the Call Forward All Calls functionality on the call forward station. As illustrated in [Figure 10](#), if set A is call forwarded to set B, then Set B can deactivate call forward.

This feature also allows a user to deactivate call forward by using Remote Call Forward deactivate Flexible Feature Code.

In China, the Call Forward Destination Deactivation feature requires an octothorpe (#) as an end of dial delimiter when entering FFC's to deactivate.

Figure 10
Call Forward Destination Deactivation Capability



Operating parameters

The feature is applicable to Meridian 1 Options 11C, 51C, 61C, 81 and 81C systems.

Call Forward Destination Deactivation is only supported on Call Forward. This feature is not supported on Internal Call Forward.

The existing Call Forward All Calls features allows users to program a call forward station within a Meridian 1 switch or Public Switching Telephone Network. The Call Forward Destination Deactivation feature is designed for stand alone application only. Therefore, both the destination and originator must belong to the same customer on the Meridian 1 switch.

The call forwarded destination can deactivate the Call Forward All Calls functionality. However, the call forwarded destination cannot activate the call forward functionality from the originating set unless using the RCFA FFC.

CFDD can be activated on Meridian 1 proprietary, ISDN Basic Rate Interface and Analog (500/2500 type) sets by dialing the CFDD FFC. 16-button Dual-Tone Multi-Frequency sets can use one of the A,B,C or D function keys, configured as CFDD, or they can also dial CFDD FFC to use this feature.

An analog 500-type set with a dial pulse Class of Service cannot dial an octothorpe (#) as the end of dial delimiter. To activate CFDD on an analog 500-type set, the dial string digits (the STRG prompt in LD 15) must be configured for the end of dial delimiter.

If the string to indicate end of dialing (STRG prompt in LD 15) is defined, then analog (500/2500 type), 16-button DTMF, ISDN BRI and Meridian 1 proprietary sets must dial string digits as an end of dial delimiter to activate CFDD.

In China, to activate CFDD a user must dial an octothorpe (#) as an end of dial delimiter. In this market, an analog 500-type telephone does not support this feature.

An Automatic Call Distribution (ACD) agent can only activate this feature from their personal Directory Number key. This feature cannot be activated on the ACD in calls key.

If the call forward station has a Prime DN and Secondary DN defined, then the Call Forward Destination Deactivation feature only considers the Prime DN to forward a call. Therefore, during the feature operation, the call forwarded destination's dialed DN of Set A is compared with the call forward station's Prime DN.

Feature interactions

Call Forward All Calls

If a user's call forwarded Directory Number (DN) is defined as DN of Set B and set A dials the CFW FFC to activate call forward, then Set A gets forwarded to Set B. Set B can deactivate CFW on set A by dialing the CFDD FFC.

Call Forward, Remote

Remote Call Forward (RCFW) and Call Forward Destination Deactivation (CFDD) provide the same functionality but are activated differently. CFDD does not require the call forward station's control password to deactivate the call forward functionality on the call forward station.

The call forwarded destination can use the Remote Call Forward deactivation FFC as well as CFDD to deactivate the Call Forward All Calls functionality on the call forward station.

Meridian Mail

Meridian Mail cannot deactivate the CFW functionality on the call forward station by using CFDD FFC.

Feature packaging

Call Forward Destination Deactivation (CFDD) requires Flexible Feature Code (FFC) China Flexible Feature Code (CHFFC) package 139.

Feature implementation

The Call Forward All Calls feature is configured in LD 10 for Analog (500/2500 type) telephones and LD 11 for Meridian 1 proprietary telephones.

LD 15 – Configure Dial String in Customer Data Block.

Prompt	Response	Description
REQ:	CHG	Change existing data block.
TYPE:	FFC	Flexible Feature Code gate opener.
CUST	xx	Customer number.
...		
- FFCS	YES	Change end of dialing digits.
- - STRL	1-3	Number of digits to indicate end of dialing.
- - STRG	xxx	String to indicate end of dialing. Outpulsing of Asterisk (*) and Octothorpe (#) (OPAO) package 104 is required to outpulse (*) and (#) in the string.

LD 57 – Configure Flexible Feature Codes for Call Forward Destination Deactivation.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	FFC	Flexible Feature Codes data block.
CUST	xx	Customer number.
FFCT	(NO), YES	Flexible Feature Confirmation Tone. YES = confirmation tone is required.
CODE	DEAF	Deactivate Feature.
- DEAF	xxxx	Enter Flexible Feature Code on a set.
CODE	CFWA	Call Forward All Calls Activate Code.
- CFWA	xxxx	Enter Flexible Feature Code to activate.
CODE	CFWD	Call Forward All Calls Deactivation Code.
- CFWD	xxxx	Enter Flexible Feature Code to deactivate.
CODE	CFWV	Call Forward All Calls Verify Code.
- CFWV	xxxx	Enter Flexible Feature Code to verify.
CODE	CFDD	Call Forward All Calls Destination Deactivation Code.
- CFDD	xxxx	Enter Flexible Feature Code.

LD 18 – Configure Call Forward Destination Deactivation FFC on 16-button DTMF Set. (Not applicable for North America.)

Prompt	Response	Description
REQ	NEW, CHG	Add, or Change 16-button data block.
TYPE	ABCD	16-button data block.
TBNO	1-254	Number of ABCD Table to be added or changed.
DFLT	1-254	Number of default function table.

PRED	YES	Function table is changed for predial. NO = default mnemonics are used.
- A	CFDD	Call Forward Destination Deactivation FFC assignment of key.
- B	CFWA	Call Forward All Call Activation FFC assignment of key.
...		
Note: Call Forward Destination Deactivation FFC function can be assigned to any A, B, C or D key of the 16-button DTMF set.		

ISDN BRI sets can deactivate the Call Forward All Call feature. To set up the digital subscriber loop and terminal service profile for a BRI set refer to LD 27.

Feature operation

To enable the Call Forward Destination Deactivation feature, complete the following:

- 1 Go off-hook on the "call forward to" Directory Number of the call forwarded set and listen for dial tone.
- 2 Dial the CFDD FFC followed by DN of the call forward originator and end of dial delimiter.
- 3 Response provided.

The following responses are provided to the user of the call forwarded destination.

- 1 If originator's call forward DN is the same as active DN of destination then the call forward feature on originator is deactivated. If the confirmation tone in LD 57 is enabled, then a confirmation tone or speech is provided to the destination set. Otherwise, silence is provided.
- 2 If the originator's call forward DN does not match the active DN of the destination, then an overflow tone is provided to the destination set.
- 3 If the Call Forward All Calls functionality on the originator set is already deactivated, then an overflow tone is provided to the destination set.

- 4 If the originator does not have call forward all calls defined, then an overflow tone is provided to the destination set.

16-Button DTMF Set

To activate CFDD on this set, the user must press one of the ABCD function keys that is defined as CFDD FFC, followed by DN of call forward station set and end of dial delimiter.

Deactivating Multiple Appearance DN

The Call Forward Destination Deactivation feature operation remains the same. However, if the call forward station is a Multiple Appearance DN (MADN) set, then the station's Prime DN is considered to find the Call Forward All Calls functionality for deactivation.

If more than one MADN call forward stations have Call Forward All Calls defined and the call forward DN on one or more MADN call forward stations matches the active DN of Set B, then the call forward functionality on one or more MADN call forward stations is deactivated.

Any one of MADN call forwarded destination station is allowed to deactivate the call forward function on the call forward station by using the CFDD FFC.

Introduced in X11 Release:	All
Networking:	Yes

Call Forward Busy

Call Forward Busy (CFB) automatically routes incoming Direct Inward Dialing (DID) calls to the Attendant Console when a telephone is busy. This capability is allowed or denied in the Class of Service (FBA/FBD) of the telephone.

Operating parameters

On incoming DID calls, Hunting takes precedence, followed by Call Waiting, then Call Forward Busy. In busy situations, the call hunts if the telephone has Hunting specified.

Feature interactions

Attendant Alternative Answering

If Call Forward Busy is allowed for the Attendant Alternative Answering (AAA) DN (and that DN is busy), a DID call is returned to the attendant and can again be eligible for AAA timing and operation.

Attendant Busy Verify

Attendant Busy Verify does not affect Call Forward Busy.

Call Detail Recording on Redirected Incoming Calls

The Call Detail Recording on Redirected Incoming Calls feature does not affect how the Call Forward Busy feature operates; however, it does provide information about the answering party in the CDR ID field if incoming calls have been redirected by any one of these features.

Call Forward All Calls

Call Forward All Calls takes precedence over Call Forward Busy.

Calling Party Privacy

When an incoming trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be tandemmed to the far end to inhibit the display of the Calling Party Name or Number provided that the tandem node also has Calling Party Privacy (CCP) provisioned.

The CCP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outpulsed to the terminating node to inhibit the number of the forwarding set (i.e., at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

Call Waiting for Meridian 1 proprietary telephones

If Class of Service allows CFB and Call Waiting Allowed, and the telephone has a Call Waiting key, calls do not forward to the attendant when the telephone is busy and another call is waiting.

Call Waiting for Analog (500/2500 type) telephones

If a telephone has CFB and Call Waiting Allowed Class of Service, calls are forwarded to the attendant when the telephone is busy and has another call waiting.

Camp-On, Station

For DID calls only, Call Forward Busy takes precedence over Camp-On, Station.

China – Attendant Monitor

If an attendant attempts to monitor a DN which is Call Forwarded and is idle, idle DN treatment is given.

China – Toll Call Loss Plan

Toll pad switching is also provided after call forwarding has been completed. When the toll call is diverted, the diverted party's pad level is switched back to its original value (unless it is an OPS station using dynamic switching). The Toll Loss Plan is applied again for the new call as if it is a direct call. For Call Transfer, it is provided after the transferring party completes the transfer and drops out. For Call Forward or Hunting, it is provided when the forwarding or hunting call is answered.

Departmental Listed Directory Number

Call Forward Busy operates like Call Forward to 0, and are routed to any idle Attendant Console in the customer group.

Dial Access to Group Calls

Call Forward Busy cannot be applied to a Group Call.

Call Forward Busy

Calls modified by Call Forward Busy are not given Distinctive Ringing as they terminate on the Attendant Console.

**Dial Access to Group Calls
Group Call**

Call Forward Busy cannot be applied to Dial Access to Group Calls or Group Call.

Flexible Feature Code Boss Secretarial Filtering

Call Forward Busy to a boss set with filtering active is routed to the secretary set.

Flexible Voice/Data Terminal Number

Voice calls directed to a call processing busy dynamic voice/data TN are redirected via Call Forward Busy provided this feature is configured for the TN. Data calls to dynamic voice/data TNs are not redirected.

Group Hunt

Group Hunting has priority over the Call Forward Busy feature.

If the DN attempted for termination has FBA (Forward Busy Allowed) Class of Service, and if it is busy, then Group Hunting continues with the next DN in the group

Hot Line

Any Hot Line telephone can be assigned Call Forward Busy but it applies only to the two-way Hot Line capability.

Hunting

When a telephone is busy, an incoming call hunts only if Hunting is allowed for that telephone. If all the steps in the hunt group are busy, and Call Waiting is not allowed, the call forwards to the Attendant Console.

ICP Network Screen Activation, Flexible DN, Meridian Mail Interactions

When a call redirected by Call Forward All Calls, Call Forward No Answer, Call Forward Busy, or Hunt terminates on an Intercept Computer (ICP) position, a redirected message identification "50" is sent to the ICP computer, when the call is answered.

Incoming Call Indicator Enhancement

When a DID call to station that is unrestricted from receiving DID calls (UDI Class of Service) is forwarded to a UDI station due to Call Forward All Calls or Call Forward Busy, the call is RDI-intercepted to the attendant. The attendant display shows the DN of the dialed party.

If the call has been forwarded to the attendant, the Call Forward All Calls/Call Forward Busy ICI lights up, and not the RDI-intercept ICI.

Lockout, DID Second Degree Busy, and MFE Signaling Treatments

Call Forward Busy takes precedence over lockout and second degree busy.

Network Intercom

Hot Type I calls respect or override all kinds of Call Forward features (Busy, No Answer, All Calls, Internal, etc.) according to per-set definitions. If Call Forward is respected, the call becomes a normally dialed call and the originator will receive the appropriate indication on their display.

Night Service

When the system is in Night Service, DID calls forwarded by Call Forward Busy are routed to the specified night number. If the night telephone is busy, subsequent calls receive busy tone.

Recorded Announcement for Call Diverted to External Trunks

Recorded Announcement for Calls Diverted to External Trunks (RANX) is activated if the call is forwarded to an outgoing external CO trunk with the RANX feature active.

Recovery on Misoperation of Attendant Console

Call Forward takes precedence over the Misoperation feature.

Total Redirection Count

Call Forward Busy redirections is limited to the value defined in the Total Redirection Count limit (if greater than 0). If this limit is exceeded, intercept treatment is given.

Trunk Barring

If an Originating Trunk Connection is forwarded to a barred route, it receives the intercept treatment specified in the Customer Data Block.

Feature packaging

Call Forward Busy is included in base X11 system software.

Feature implementation

LD 15 – Add/change a Call Forward Busy Incoming Call Indicator (ICI) on Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- ICI	xx CFB	Add a Call Forward Busy ICI key; xx = 0-19.

LD 10 – Allow/deny Call Forward Busy on analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(FBD) FBA	(Deny) allow Call Forward Busy.

LD 11 – Allow/deny Call Forward Busy on Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(FBD) FBA	(Deny) allow Call Forward Busy.

Feature operation

No specific operating procedures are required to use this feature.

Introduced in X11 Release:	10
Networking:	No

Call Forward by Call Type

Call Forward by Call Type (CFCT) routes calls receiving a no answer or busy signal to separately defined DN's based on the type of incoming call. The two types of incoming calls are internal and external.

An internal call is defined as a station-to-station call, a Direct Inward System Access (DISA) call, or an incoming call over a trunk route class marked as internal. An external call is an incoming call over a trunk route class marked as external. The trunk route data block (LD 16) allows routes to be defined as internal or external for this feature.

Four options are available at the customer level for Call Forward No Answer: Flexible Call Forward No Answer DN (FDN), Attendant Recall (ATT), Call Forward denied for all telephones (NO), and Hunting (HNT). Call Forward by Call Type (CFCT) is enabled only when the FDN and HNT options are chosen. If Call Forward by Call Type (CFCT) is not activated, the four options function as they did prior to X11 Release 10.

In LD 15 Call Forward No Answer is defined by FNAT for external non-DID calls and by FNAL for internal calls. FNAD continues to define Call Forward No Answer for Direct Inward Dialing (DID) trunk calls.

CFCT is allowed or denied for each telephone in LD 10 or LD 11 with Class of Service (CFTA/CFTD). If CFCT is allowed (CFTA), the forwarding destination is also defined in LD 10 or LD 11.

Once enabled, CFCT requires no intervention. How the system initiates Call Forward by Call Type is described below.

When a call is presented to a telephone, the telephone is checked for the appropriate Class of Service (Hunting Allowed (HTA), Call Forward No Answer (FNA), Call Forward by Call Type (CFTA)). The incoming call is then checked to determine if it is a telephone, DISA, or trunk call. If it is a trunk call, the trunk route is checked to determine whether the call should be treated as an internal or external call. After these checks, internal calls are forwarded to the FDN or Hunt DN of the telephone. External calls are forwarded to the External Flexible DN (EFD) or External Hunt (EHT) DN of the telephone.

The order in which the system handles no answer and busy calls is an important consideration when implementing this feature. The order of precedence is listed below.

Calls to telephones that do not answer:

- Call Forward All Calls
- Message Waiting
- Call Forward No Answer
- Attendant Recall

Calls to busy telephones:

- Call Forward All Calls
- Hunting
- Call Waiting or Camp-On
- Message Waiting Forward Busy
- Call Forward Busy

Operating parameters

Attendant Administration does not support the entry of the new EFD and EHT Class of Service required for Call Forward by Call Type.

The following trunk routes can be defined as internal or external call types for CFCT: CO, DID, FX, ATVN, CCA, TIE, WATS, and CSA.

Incoming DISA calls are always treated as internal calls irrespective of the trunk route class mark defined for the incoming trunk.

If an incoming call has been modified by Call Forward All Calls or Hunting, the Class of Service and forwarding DN are obtained from the dialed DN. This applies when Call Forward No Answer specified at the customer level is HNT or FDN.

Feature interactions

Attendant

An attendant-extended call is classified internal or external by the originating telephone or class mark of the trunk type. This is the case whether or not the attendant has released before forwarding occurs.

Attendant Alternative Answering

If Call Forward by Call Type is enabled on the Attendant Alternative Answering (AAA) DN, calls are forwarded based on the Call Type of the originator.

Attendant Break-In to Inquiry Calls

The operation of Call Forward by Call Type is overridden on a analog (500/2500 type) telephone that has inadvertently been placed on-hook during a Break-In conference to allow it to be re-rung by the attendant.

Automatic Timed Recall

Calls eligible for Flexible Call Forward No Answer treatment, and handled by Call Forward by Call Type, use the Call Forward No Answer timer in the Customer Data Block as the recall timer for attendant extended calls. Irrespective of the relative timeout for Automatic Timed Recall, the ringing continues as long as allowed by the Call Forward No Answer Timer.

Call Forward All Calls

If a call is unanswered at the forwarded DN, the telephone that has Call Forward All Calls activated is checked for the Class of Service and the call forward DN. If a chain of call forwarding occurs, the Class of Service and the forward DN for Call Forward No Answer are obtained from the first telephone in the chain. This applies when FDN and HNT have been specified for Call Forward No Answer at the customer level.

Note: Prior to X11 Release 10, when HNT was specified for Call Forward No Answer, the Class of Service and Hunt DN for Call Forward No Answer were obtained from the last telephone in the chain.

Call Forward No Answer

The sequence for forwarding unanswered calls is Call Forward All Calls, Message Waiting, Call Forward No Answer, then Attendant Recall (if the call is attendant-extended). The same sequence is used when Call Forward by Call Type is active for the customer.

Call Forward No Answer, Second Level

To implement CFCT for Second Level Call Forward No Answer eligible calls, the originating party's call type is checked. If it is internal, the call is forwarded to the Flexible Call Forward No Answer DN (FDN). If it is external, the call is forwarded to the External Flexible DN (EFD).

Call Forward Save on SYSLOAD

The Call Forward status of each telephone can be saved as part of the data dump routine and reinstated following a SYSLOAD operation.

Call Forward, Break-In and Hunt Internal/External Network Wide

If the Internal/External definition in LD 15 is set to YES, a call is treated as internal or external on a network wide basis.

Call Redirection by Time of Day

If Call Forward by Call Type (CFCT) is enabled with Call Forward No Answer (CFNA) and Call Redirection by Time of Day (CRTOD), unanswered internal calls receiving CFNA are routed to the Flexible CFNA DN, Hunt DN, Alternate Flexible CFNA DN or Alternate Hunt DN. External calls are routed in the same manner.

If CFNA is enabled with Hunting by Call Type and Call Redirection by Time of Day (CRTOD), unanswered internal calls are redirected to the Hunt DN or Alternate Hunt DN during the alternative time. External calls are routed in the same manner. The alternate time is defined on the called DN's data block.

Calling Party Name Display Denied

During a Call Forward or Call Transfer, the calling party digits and forwarding/transferring party digits are displayed on the terminating set. This display is allowed or denied depending on the Class of Service of the calling set and the forwarding/transferring set. The name of the forwarding/transferring set is not displayed on the calling and terminating set.

Calling Party Privacy

When an incoming trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be tandemmed to the far end to inhibit the display of the Calling Party Name or Number provided that the tandem node also has Calling Party Privacy (CCP) provisioned.

The CCP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outpulsed to the terminating node to inhibit the number of the forwarding set (i.e., at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

Call Transfer
Network Call Transfer

Calls modified by Call Transfer and Network Call Transfer receive CFCT treatment. If party A (telephone or trunk) calls party B, and B transfers to party C, the forwarding DN and Class of Service are obtained from party C.

Call Waiting Redirection

If Call Forward and Hunt by Call Type (CFCT) is enabled with Call Forward No Answer and Call Waiting Redirection, “no answer” internal calls receiving Call Waiting treatment are routed for CFNA treatment to the Flexible CFNA DN (FDN) or Hunt DN, and “no answer” external calls are routed for CFNA treatment to the External Flexible CFNA DN (EFD) or External Hunt DN (EHT).

Conference

Calls modified by Conference receive CFCT treatment for the conferenced telephone. If party A calls party B, and B tries to conference in party C, the forwarding DN and Class of Service are that of C. For example, Joan and Bob are in conversation, and they try to conference in Mack. Mack is not at his desk, so the attempted conference call is sent to the destination associated with Mack’s telephone.

Direct Inward Dialing (DID)

Eligibility of a DID call for Call Forward by Call Type is determined by allowing or denying the type of call in the Customer Data Block (FNAD prompt). The decision to treat a DID call as internal or external is made on a trunk route basis.

Group Hunting Queuing Limitation Enhancement

An external call is made to the PLDN. An idle group hunt list member station is rung but does not answer. If the member station has Call Forward No Answer (FNA) or Call Forward by Call Type Allowed (CFTA) Class of Service, then the call is transferred to the attendant after the number of ring cycles defined for Call Forward No Answer has been reached. If the call is an internal call, then the system searches for another idle group hunt list member.

ISDN Semi Permanent Connections for Australia

ISPC calls are handled according to the configuration of the route associated to the phantom trunk TN. This configuration is independent of the route associated to the real TN.

Message Center

Message Center uses the Flexible Call Forward No Answer DN (FDN) of the called telephone to route no answer calls. If CFCT is enabled, unanswered internal calls use the FDN to route a call. Unanswered external calls use the External Flexible DN (EFD) to route a call.

Multiple Appearance Directory Numbers

Call redirection parameters like Call Forward No Answer are derived from the TN data block of the prime appearance of the called Multiple Appearance Directory Number. If there is more than one prime appearance, the parameters are selected from the last TN in the DN block.

If more than one prime appearance of a MADN exists, the following information must be considered prior to configuring call redirection parameters for MADNs.

The DN Block organizes MADN information in numerical TN order. The TN with the highest numerical value (000-0-06-03) is placed at the beginning of the list. The list then continues in descending order with the lowest numerical TN (000-0-03-01) at the end of the list. Service change activity affects the organization of the DN list as described in the following paragraphs.

- If a telephone undergoes Service Change, its TN is moved to the beginning of the DN list, irrespective of the numerical value. This telephone remains at the beginning of the list until another service change or a SYSLOAD.

- If a DN appears on analog (500/2500 type) telephones, and Meridian 1 proprietary telephones, the analog (500/2500 type) telephones are listed in numerical TN order at the top of the list. Meridian 1 proprietary telephones are listed in numerical TN order at the bottom of the list. A Service Change to an analog (500/2500 type) telephone moves its TN to the beginning of the list. A Service Change to a Meridian 1 proprietary telephone moves its TN to the end of the list.
- A SYSLOAD restructures the list back to numerical TN order, with analog (500/2500 type) telephones at the top and Meridian 1 proprietary telephones at the bottom. Call redirection parameters continue to be derived as described in the preceding paragraphs.

Recovery on Misoperation of Attendant Console

Call Forward takes precedence over the Misoperation feature.

Trunk Barring

If an Originating Trunk Connection is forwarded to a barred route, it receives the intercept treatment specified in the Customer Data Block.

Feature packaging

Call Forward by Call Type is included in base X11 system software.

Feature implementation

LD 15 – Enable Call Forward by Call Type for a customer.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB RDR	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- FNAD	(HNT) ATT NO FDN	Treatment for incoming DID calls.

- FNAT	(HNT) ATT NO FDN	Treatment for incoming external calls.
- FNAL	(HNT) ATT NO FDN	Treatment for incoming internal calls.
- CFNA	1-(4)-15	Number of ringing cycles for CFNA.

LD 16 – Define a trunk route as internal or external for Call Forward by Call Type.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB	Customer Data Block.
CUST	xx	Customer number.
ROUT	xxx	Route number.
RCLS	(EXT) INT	Route class marked as (external) or internal.

LD 10 – Enable Call Forward by Call Type for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
HUNT	xxxx	Hunt DN for internal calls.
CLS	(CFTD) CFTA	(Deny) allow Call Forward by Call Type Telephone. Must have Hunting (HTA) and Call Forward No Answer (FNA) allowed.
FTR	EFD xxxx EHT xxxx FDN xxxx	Flexible Call Forward No Answer DN for external calls. Hunt DN for external calls. Flexible Call Forward No Answer DN for internal calls.

LD 11 – Enable Call Forward by Call Type for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
FDN	xxxx	Flexible Call Forward No Answer DN for internal calls.
CLS	(CFTD) CFTA	(Deny) allow Call Forward by Call Type Telephone. Must have Hunting (HTA) and Call Forward No Answer (FNA) allowed.
EFD	xxxx	Flexible Call Forward No Answer DN for external calls.

HUNT	xxxx 000	Hunt DN for internal calls. Short Hunt for internal calls.
EHT	xxxx 000	Hunt DN for external calls. Short Hunt for external calls.
LHK	xx	Last hunt key number for internal and external calls

Feature operation

No specific operating procedures are required to use this feature.

Call Forward External Deny

This enhancement provides the option to restrict, on a per-telephone basis, the DN that can be programmed for Call Forward All Calls to internal DNs only. Internal DNs are defined as:

- DNs that terminate on an analog (500/2500 type) telephone
- DNs that terminate on a Meridian 1 proprietary telephone
- DNs that terminate on a data terminal defined in LD 10 or LD 11
- Attendant DNs or Centralized Attendant Service (CAS) local attendant DNs
- Listed DNs (LDNs)
- Message Center DNs as defined in LD 23

External DNs include (but are not limited to) trunk access codes, Coordinated Dialing Plan (CDP) steering codes, Basic and Network Alternate Route Selection (BARS/NARS) access codes, Electronic Switched Network (ESN) Location Codes, non-message center Automatic Call Distribution (ACD) numbers, Call Park numbers, and Direct Inward Services Access numbers.

When Call Forward External Deny is enabled for a telephone:

- A user trying to forward calls from an analog (500/2500 type) telephone to an external DN receives overflow tone. The telephone is not call forwarded.
- A user trying to forward calls from a Meridian 1 proprietary telephone to an external DN receives overflow tone and the lamp associated with the Call Forward key of the telephone flashes. The telephone is not call forwarded.

- A user trying to forward calls from a Meridian digital or a display telephone to an external DN receives overflow tone. The telephone is not call forwarded and one of the following messages is displayed:

Release and try again (M2317 telephones)

Release, check, and try again (M3000 telephones)

- A user trying to forward calls from a data module to an external DN does not receive overflow tone. Calls are not forwarded and one of the following messages is displayed:

Invalid data forward number (M2317 telephones)

Data calls not forwarded (M3000 telephones)

Operating parameters

External DNs cannot be used with Call Forward All Calls if Call Forward External Deny is enabled for the telephone.

Both ESN access codes and CDP steering codes are considered external DNs, and cannot be used as a Call Forward All Calls DN if Call Forward External is denied for the telephone.

The number of digits specified in LD 10 or LD 11 for the Call Forward DN must be equal to or greater than the number of digits of any other internal DN.

Attendant Administration cannot change Call Forward External Deny Class of Service.

Feature interactions

Automatic Call Distribution (ACD)

If Call Forward External Deny (CFXD) is enabled, Call Forward to an ACD DN is allowed only if the ACD DN is a message center.

Call Forward All Calls

This feature overrides other Call Forward All Calls parameters. For example, if Call Forward to Trunk Access Code (CFTA) is allowed for the customer, but Call Forward External Deny (CFXD) is enabled for the telephone, CFXD takes precedence and call forwarding to a trunk access code is denied.

Network Call Forward

Call Forward External Deny restricts a telephone from being forwarded unconditionally to a number that is not on the home switch. Therefore, Call Forward External Deny and the Integrated Services Digital Network Primary Rate Interface (ISDN PRI) feature Network Call Forward are mutually exclusive.

Recovery on Misoperation of Attendant Console

Call Forward takes precedence over the Misoperation feature.

Trunk Barring

If an Originating Trunk Connection is forwarded to a barred route, it receives the intercept treatment specified in the Customer Data Block.

Feature packaging

Call Forward External Deny is included in base X11 system software.

Feature implementation

LD 10 – Allow/deny Call Forward External Deny for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	CFXA	Allow Call Forward to an external DN CFXD = Deny Call Forward to an external DN (default).

LD 11 – Allow/deny Call Forward External Deny for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	CFXA	Allow Call Forward to an external DN. CFXD = Deny Call Forward to an external DN (default).

Feature operation

No specific operating procedures are required to use this feature.

Call Forward/Hunt Override Via Flexible Feature Code

Call Forward Override provides all telephone users (having a specific Class of Service) and attendants with the ability to override Intercept Computer Call Forward (ICP-CFW), Call Forward All Calls, Call Forward No Answer, Hunting and Make Set Busy by entering a Flexible Feature Code. In order to use this feature, the originating set must have Call Forward Hunt Allowed (CFHA) Class of Service. When this feature is enabled if override is attempted, and the called party is idle, the set is rung regardless of any diversion. If the dialed set is busy and has Hunt active, the calling party will terminate on the wanted set and receive a busy indication. Sets without Call Forward/Hunt Override denied (CFHD) Class of Service will not be able to use the Call Forward/Hunt Override (CFHO) Via Flexible Feature Code (FFC) feature.

Call Forward/Hunt Override Via FFC works in network environments with Meridian 1 nodes and Meridian Customer Defined Network (MCDN) links.

Operating parameters

The Call Forward/Hunt Override FFC can only be used in predial mode from a set (for instance, it must be dialed before dialing the DN that has Call Forward All Calls, Intercept Call Forward, Call Forward No Answer, Internal Call Forward, Hunt, or Make Set Busy active).

The Call Forward/Hunt Override FFC can only be dialed from its own node (that is, it must be dialed before any trunk access code).

On an ABCD set the Call Forward/Hunt Override FFC can only be configured as a predial FFC (ABCD sets are a type of German telephone).

Call Forward/Hunt Override FFC can only be used against extensions with one of the following type: HOT/MCN/MCR/SCN/SCR/Basic Rate Interface (BRI) DNs and analog (500/2500 type) telephones.

It is not possible for BRI extensions to dial a Call/Forward Hunt Override FFC.

The Call Forward/Hunt Override via FFC feature can only be used in standalone and MCDN environments. If no MCDN links are involved, no information about Call Forward/Hunt Override will be passed on to other nodes.

To get the functionality of Call Forward/Hunt Override Via FFC in an MCDN environment these enhancements must be integrated in the originating node, terminating node and any intermediate nodes.

Feature interactions

Attendant Blocking of DN

Using Call Forward/Hunt Override FFC after activation of ABDN is not allowed. Any attempt will be canceled and overflow tone will be returned.

Automatic Call Distribution

Automatic Call Distribution (ACD) DNs are not overridden by Call Forward/Hunt Override Via FFC. Any attempt will be canceled and access denied treatment will be returned. Individual DNs on an ACD set are overridden by Call Forward/Hunt Override Via FFC with the same limitations as for other sets.

Attendant Barge-in

Attendant Busy Verify

Attendant Break-in

Using Call Forward/Hunt Override Via FFC after activation of Barge-in, Busy Verify or Break-in is not allowed. Attempts will be canceled and overflow tone will be returned.

Using post-dial Break-in after dialing the Call Forward/Hunt Override FFC is possible after encountering a busy set, if Break-in is enabled.

Basic Rate Interface (BRI)

BRI sets are not supported; any attempt to dial Call Forward/Hunt Override from a BRI set will be ignored and access denied treatment will be returned.

BRIT

BRI TIE trunks in a Meridian Customer Defined Network (MCDN) are supported.

Call Forward All Calls**Call Forward No Answer****Call Forward and Busy Status****Call Forward, Internal Calls****Call Forward No Answer/Flexible Call Forward No Answer****Make Set Busy****Secretarial Filtering**

These features are overridden by the Call Forward/Hunt Override Via FFC feature, but there are no changes to the features themselves.

Call Redirection by Time of Day

Call Forward/Hunt Override Via FFC has precedence over Call Redirection by Time of Day.

Call Transfer

A set can activate Call Forward/Hunt Override Via FFC when initiating a transfer. If the transfer is completed while ringing, the Call Forward/Hunt Override will still be active and passed on to the transferred party.

Call Waiting

Call Waiting can be used even if the Call Forward/Hunt Override Via FFC feature has been activated. When a busy set with Call Waiting configured is encountered, it will terminate on Call Waiting.

Call Waiting Redirection

There is no interaction with the Call Waiting treatment component of the Call Waiting Redirection feature. However, Call Forward/Hunt Override via Flexible Feature Code does override CFNA, and thus the CFNA treatment given to unanswered Call Waiting calls by the Call Waiting Redirection feature is overridden by the CFHO feature. The incoming call will continue to be given Call Waiting treatment as if the Call Waiting Redirection feature is disabled when the CFHO feature is enabled by the calling party.

Camp-on

When a busy set is encountered, it is possible to Camp-on to the set, even if Call Forward/Hunt Override Via FFC has been activated.

Digital Private Network Signaling System One (DPNSS1)

DPNSS1 is only supported as an incoming trunk transferred to a MCDN environment using Call Forward/Hunt Override Via FFC.

Direct Inward System Access

Direct Inward System Access is not supported. Any attempt to dial the Call Forward/Hunt Override FFC will be ignored and access denied treatment will be returned.

Do Not Disturb

Do Not Disturb is not overridden by the Call Forward/Hunt Override Via FFC feature.

Flexible DN

External Flexible DN

It is not possible to store the Call Forward/Hunt Override FFC as a Flexible Directory Number or External Flexible Directory Number.

Group Call

It is not possible to use the Call Forward/Hunt Override FFC as a Group Call DN.

Group Hunt

Primary Line Directory Numbers (PLDNs) are not overridden by the Call Forward/Hunt Override Via FFC feature. Any attempt will be ignored and access denied treatment will result.

Hunting

This feature is overridden by the Call Forward/Hunt Override Via FFC feature. If a set activating Call Forward/Hunt Override Via FFC encounters a busy set no hunt steps will be performed; the call will terminate on the DN and busy tone will be returned.

Hunt DN/External Hunt DN

It is not possible to store the Call Forward/Hunt Override FFC as a Hunt or External Hunt DN.

Idle Extension Notification

This feature can be used even if the Call Forward/Hunt Override Via FFC feature is activated. When a busy set is encountered, it is possible to place an Idle Extension Notification request against the set.

Intercept Computer Call Forward

This feature is overridden by the Call Forward/Hunt Override Via FFC feature. The Call Forward/Hunt Override FFC replaces the Intercept Computer Override FFC.

Intercept Computer Dial from Directory - Pre-dial Operations

Call Forward Hunt Override via Flexible Feature Code can be dialed prior to dialing the DN from the Intercept Computer.

Last Number Redial

The Call Forward/Hunt Override FFC and the dialed DN are stored under Last Number Redial.

Multiple Appearance Multiple Call Arrangements (MCAs)

Multiple Appearance Single Call Arrangements (SCAs)

If the Call Forward/Hunt Override FFC is used against an MCA (MCR/MCN) or SCA (SCR/SCN) DN it will override any active forward and terminate on all idle appearances. If all appearances are busy, busy treatment will be returned.

Primary Line Directory Number (PLDN)

It is not possible to store the Call Forward/Hunt Override FFC as a PLDN.

Phantom DN

Phantom TN

These features are not overridden by the Call Forward/Hunt Override Via FFC feature. If Call Forward/Hunt Override Via FFC is used against a phantom TN the call will be canceled and overflow tone will be given.

Override

It is possible to use Priority Override after using the Call Forward/Hunt Override FFC and encountering a busy set.

Radio Paging

If Radio Paging is activated in a call where Call Forward/Hunt Override has been used, the Call Forward/Hunt Override feature will be deactivated.

Ring Again

Network Ring Again

Using the Ring Again feature is possible after using the Call Forward/Hunt Override FFC and encountering a busy signal. Ring Again can be placed against the set for which the Call Forward/Hunt Override FFC was used (that is, the set with CFW active should be rung by the Ring Again feature).

Ring Again No Answer

Network Ring Again No Answer

Using the Ring Again No Answer feature is possible after using the Call Forward/Hunt Override FFC and encountering an idle set that does not answer. Ring Again No Answer can be placed against the set for which the Call Forward/Hunt Override FFC was used (that is, the set should be rung by the Ring Again No Answer feature).

Single Digit Access

It is not possible to store Call Forward/Hunt Override FFCs in a Single Digit Access list.

Semi-automatic Camp-On

This feature can be used even if the Call Forward/Hunt Override Via FFC feature is activated. When encountering a busy set, it is possible to activate Semi-automatic Camp-On, if it is applicable.

Speed Call

The Call Forward/Hunt Override FFC cannot be stored in a speed call list.

Feature packaging

In a standalone environment, the Flexible Feature Codes (FFC) software package 139 must be provisioned to activate this feature.

For network environments, Network Attendant Service (NAS) package 159 must also be provisioned. Attendant Overflow Position (AOP) package 56 must be restricted, as it is mutually exclusive with Network Attendant Service.

Feature implementation

LD 57 – Define FFC for Call Forward/Hunt Override.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	FFC	Flexible Feature Code.
...		
CODE	CFHO	Call Forward/Hunt Override Via FFC.
CFHO	nnnn	Call Forward/Hunt Override FFC.

LD 10 – Set Class of Service for the Forward/Hunt Override Via FFC feature for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	500	Type of telephone set.
...		
CLS	(CFHD) CFHA	Call Forward/Hunt Override Via FFC is (denied) or allowed.

LD 11 – Set Class of Service for the Forward/Hunt Override Via FFC feature for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	xxxx	Type of telephone set.
...		
CLS	(CFHD) CFHA	Call Forward/Hunt Override Via FFC is (denied) or allowed.

LD 18 – Configure ABCD key for the Forward/Hunt Override Via FFC feature.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	ABCD	Modifying 16-button DTMF.
...		
PRED	YES	Function table for pre-dial.
A	CFHO*FFC*	CFHO is assigned to key A.
B	CFHO*FFC*	CFHO is assigned to key B.
C	CFHO*FFC*	CFHO is assigned to key C.
D	CFHO*FFC*	CFHO is assigned to key D.

Feature operation

Standalone

To activate the Call Forward/Hunt Override feature, the user dials the FFC for Call Forward/Hunt Override and the DN of the wanted party. If the set is idle, the set is rung regardless of any diversion (for example, Call Forward All Calls, Intercept Call Forward, Call Forward No Answer, or Hunt) or Make Set Busy on the set.

If the set(s) have displays, the display(s) are updated. If the display on the originating set is updated when the call is answered, the Call Forward/Hunt Override FFC will no longer be displayed.

If the dialed set is busy and Hunt is active, the calling party will terminate on the wanted set and will receive busy indication.

If the dialed set is idle, but does not answer within the defined number of ringing cycles for CFNA, the call is not forwarded (that is, it continues to ring).

If the dialed set is busy, the attendant can activate Camp-on, if Camp-on is applicable. In addition, Ring Again can be placed against a set for which Call Forward/Hunt Override was used and a busy set was encountered.

Network

The user gets the same functionality in a Meridian Customer Defined Network (MCDN) as in standalone environments. The Call Forward/Hunt Override information is transmitted from the originating node to the terminating node using the Network Attendant Service (NAS) feature.

Activation of the service is call dependent; network-wide Call Forward/Hunt Override is part of the NAS feature.

Call Forward, Internal Calls

The Internal Call Forward (Internal CFW) feature operates with X11 Release 19 and allows you to selectively forward only internal calls to the Internal CFW DN.

Internal CFW is activated/deactivated on a per-telephone basis and is user programmable when Internal CFW is activated. On a Meridian 1 proprietary telephone, the Internal CFW feature (ICF) key is the only access method. On an analog (500/2500 type) telephone, Internal CFW can be accessed by either dialing SPRE and the Internal CFW feature code (9914), or by the appropriate Flexible Feature Codes (FFCs).

All internal calls terminating on the primary (or any single appearance) DN of an Internal CFW active telephone are automatically forwarded to the programmed Internal CFW DN (refer to the operating parameters section for information on primary and secondary, and single and multiple appearance DNs).

An internal call is defined by the Internal CFW feature as one of the following:

- an extension-to-extension call
- a Direct Inward System Access (DISA) call
- an attendant-originated call
- a conference call
- a Group Call feature initiated call
- an incoming trunk call over a trunk route classified as internal (LD 16 where RCLS = INT), and

- an incoming Integrated Services Digital Network (ISDN) trunk call using private numbering.

Non-internal calls are not affected by the Internal CFW feature.

Operating parameters

Call Forward All Calls takes precedence over Internal CFW, but is not a prerequisite for the Internal CFW feature. For example, if a telephone is already CFW All Calls active, it will not be allowed to activate Internal CFW at the same time. Internal CFW can only be activated if CFW All Calls is explicitly deactivated.

Also, if Internal CFW is active when trying to activate CFW All Calls, Internal CFW will automatically be deactivated.

Internal CFW operation is consistent with the CFW All Calls feature. Therefore, when a Meridian 1 proprietary telephone activates Internal CFW, the following DN's will become Internal CFW activated:

- the primary DN (key 0), regardless of whether the DN is multiple appearance or not, and
- all secondary DN's that are single appearance.

Consequently, if all the appearances of a multiple appearance DN are on non-primary Meridian 1 proprietary telephone keys, calls to these DN's will never receive Internal CFW treatment.

When an analog (500/2500 type) telephone activates Internal CFW, regardless of whether the DN is multiple appearance or not, Internal CFW becomes activated.

Internal CFW supports only the voice line on digital telephones that have both voice and data options.

On 2317 and M3000 telephones, the CFW programming screen (invoked by pressing the CFW softkey), is not displayed when the ICF key is pressed. Instead, the screen displays the previously programmed ICF number.

If an Internal CFW call is rejected, a display message is given if the telephone is digital and has a digit display module (this display message is the same as that given to a failed CFW All Calls activation request). Otherwise, overflow tone is given.

Internal CFW is not maintained through a SYSLOAD.

Internal CFW is not supported on Basic Rate Interface (BRI) telephones.

Feature interactions

Attendant Administration

This feature does not support Internal CFW.

Attendant Blocking of Directory Number

The Attendant Blocking of DN feature will override Internal CFW. If the dialed DN of the set is idle, the DN can be blocked; if the DN is busy, busy tone will be heard.

Attendant Busy Verify

When the attendant is using this feature to call a telephone that is Internal CFW active, the call will not receive Internal CFW treatment.

Attendant-Extended Calls

When the attendant extends a call on its SRC key to a telephone that is Internal CFW active, the call on the SRC key will only receive Internal CFW treatment if it is an internal call.

Attendant Night Service

When a call to the attendant is redirected to the Attendant Night DN that is defined on an Internal CFW active telephone, the call will only receive Internal CFW treatment if it is an internal call.

Attendant Overflow

If Attendant Overflow redirects an internal call to a telephone that is Internal CFW active, the call will remain in the attendant queue, and will not receive Internal CFW treatment.

Call Forward All Calls

Call Forward Reminder Tone

If Call Forward Reminder Tone Allowed (CFRA) is in effect, whenever an analog (500/2500 type) telephone with Internal CFW active goes off hook to originate a call, the telephone sounds the reminder tone. The reminder tone is either Call Forward Dial Tone (CFDT) or Call Forward/Message Waiting Dial Tone (CFMW).

If the customer option is set to Call Forward Reminder Tone Denied (CFRD), whenever an analog (500/2500 type) telephone with internal CFW active goes off hook to originate a call, the telephone sounds either the normal dial tone (DIAL) or the Message Waiting Dial Tone (MWDT).

Call Forward, Break-In and Hunt Internal/External Network Wide

If a treated call is a transfer call and the transferring call is on the treating node, the transferred party will be considered. However, when the transferring party is not on the treating node, the transferring party will determine the treatment given.

Call Forward/Hunt Override Via Flexible Feature Code

Call Forward, Internal Calls is overridden by the Call Forward/Hunt Override Via FFC feature, but there are no changes to the feature itself.

Call Redirection by Time of Day

Call Forward Internal Calls has precedence over Call Redirection by Time of Day.

Call Waiting

Call Waiting Redirection

Internal CFW takes precedence over Call Waiting and Call Waiting Redirection.

Calling Party Privacy

When an incoming trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be tandemmed to the far end to inhibit the display of the Calling Party Name or Number provided that the tandem node also has Calling Party Privacy (CCP) provisioned.

The CCP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outputted to the terminating node to inhibit the number of the forwarding set (i.e., at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

Camp-On

Internal CFW takes precedence over Camp-On.

China – Attendant Monitor

If an attendant attempts to monitor a DN which is Call Forwarded and is idle, idle DN treatment is given.

China – Toll Call Loss Plan

Toll pad switching is also provided after call forwarding has been completed. When the toll call is diverted, the diverted party's pad level is switched back to its original value (unless it is an OPS station using dynamic switching). The Toll Loss Plan is applied again for the new call as if it is a direct call. For Call Transfer, it is provided after the transferring party completes the transfer and drops out. For Call Forward or Hunting, it is provided when the forwarding or hunting call is answered.

**Do Not Disturb
Hunting**

Internal Call Forward take precedence over Do Not Disturb and Hunting.

Flexible Voice/Data Terminal Number

Voice calls directed to a dynamic voice/data Terminal Number are forwarded, if either of these features are enabled. Data calls, to a dynamic voice/data TN, are not forwarded.

Network Intercom

Hot Type I calls respect or override all kinds of Call Forward features (Busy, No Answer, All Calls, Internal, etc.) according to per-set definitions. If Call Forward is respected, the call becomes a normally dialed call and the originator will receive the appropriate indication on their display.

Phantom Terminal Numbers (TNs)

Internal CFW cannot be enabled on a phantom TN.

Recorded Announcement for Calls Diverted to External Trunks

Recorded Announcement for Calls Diverted to External Trunks (RANX) feature supports call forward to an outgoing external Central Office (CO) trunk if the trunk has the RANX flag set and is located in a node with a RAN trunk.

Recovery on Misoperation of Attendant Console

Call Forward takes precedence over the Misoperation feature.

Remote Call Forward

Remote CFW Activate (RCFA), Remote CFW Deactivate (RCFD), and Remote CFW Verify (RCFV) FFCs can be used only to access CFW All Calls; they cannot be used to access Internal CFW.

Trunk Barring

If an Originating Trunk Connection is forwarded to a barred route, it receives the intercept treatment specified in the Customer Data Block.

Feature packaging

Internal CFW requires the following packages:

- Basic Call Processing (BASIC) package 1 (CFW package required but does not have to be enabled)
- 500 Set Dial Access to Features (SS5) package 73 for access to analog (500/2500 type) telephones
- Flexible Feature Codes (FFC) package 139 to implement FFC

Feature implementation

LD 10 – Add/change Internal CFW for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	500	Telephone type.
FTR	ICF 4-(16)-23 XICF	Allow Internal CFW for the specified telephone and the maximum forward DN length. Remove Internal CFW from the telephone.

LD 11 – Add/change CFW Internal Calls for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
KEY	xx ICF 4-(16)-23 <nnnn>	Define an Internal CFW feature key for the telephone. The command consists of: xx = key number. ICF = feature mnemonic. 4-23 = the maximum forward DN length. nnnn = forward DN.
	xx null	Remove function/feature from a key.

LD 57 – Add/change Internal CFW for analog (500/2500 type) telephones using a Flexible Feature Code.

Prompt	Response	Description
REQ	NEW CHG OUT	Add, change, or remove data.
TYPE	FFC	Flexible Feature Code.
CODE	ICFA ICFD ICFV	Access Code for Internal CFW Activate. Access Code for Internal CFW Deactivate. Access Code for Internal CFW Verify.
ICFA	xxxx	Internal CFW Activate code.
ICFD	xxxx	Internal CFW Deactivate code.
ICFV	xxxx	Internal CFW Verify code.

Feature operation

Meridian 1 proprietary telephone

To forward internal calls from a Meridian 1 proprietary telephone:

- 1 Press the ICF key.
- 2 Dial the number where calls are to be forwarded.
- 3 Press the ICF key.

To cancel Internal CFW from a Meridian 1 proprietary telephone:

- Press the ICF key.

Analog (500/2500 type) telephone

To forward internal calls from an analog (500/2500 type) telephone:

- 1 Lift the handset and dial SPRE 9914 (Internal CFW feature code)

— *or* —

Lift the handset and dial the Internal CFW Activate (ICFA) FFC.

- 2 Dial the number where calls are to be forwarded.

To cancel Internal CFW from an analog (500/2500 type) telephone:

- Lift the handset and dial SPRE 9914 (Internal CFW feature code)

— *or* —

Lift the handset and dial the Internal CFW Deactivate (ICFD) FFC.

Call Forward No Answer/Flexible Call Forward No Answer

Call Forward No Answer automatically forwards unanswered calls to another DN. The customer can specify the number of rings (1 to 15) before the system invokes Call Forward No Answer. The default is four rings.

Four options are available at the customer level for Call Forward No Answer:

- deny for all telephones
- route all unanswered calls to the attendant
- route all unanswered calls to the Hunt number defined for the telephone
- route all unanswered calls to the Flexible Call Forward No Answer DN defined for the telephone

Flexible Call Forward No Answer allows the customer to specify, on a per-telephone basis, where an unanswered call should be routed. This is independent of the Hunt number assigned to the telephone. This capability is implemented on a per-customer basis and can be specified for Direct Inward Dialing (DID) and non-DID call types. When activated, a call to a telephone that does not answer within the specified number of ring cycles is forwarded to the Flexible Call Forward No Answer DN (FDN) associated with that telephone.

The Flexible Call Forward No Answer operation applies only to individual DN calls of analog (500/2500 type) telephones, and not to Automatic Call Distribution (ACD) calls.

A call is forwarded under the following conditions:

- The Class of Service of the dialed telephone is Forward No Answer allowed.
- Flexible Call Forward No Answer is enabled at the customer level.
- The call has rung the specified number of times.
- The Call Forward No Answer DN (FDN) is valid and has been assigned.

System or telephone features such as Hunting and Call Forward All Calls may result in the presentation of a call to a telephone that is different from the dialed DN. In these cases, if the call is eligible for Flexible Call Forward No Answer, it is forwarded to the DN specified for the dialed DN, not the ringing DN.

When you use Multiple Appearance DNs (MADNs), call redirection is determined based on the Terminal Number (TN) order in your DN block. To determine the TN order, print the DN block from LD 20 or LD 22 (TYPE = DNB). When a call comes in to a MADN, the system begins a search to determine how the call will be handled. Using the TN list you printed, the system performs the following search, beginning at the bottom of the TN list and working up.

- 1 Search for the first Prime DN appearance of the MADN with Call Forward All Calls activated.
- 2 If there are no Prime DN appearances, the TN at the bottom of the list controls call redirection.

Note: The search does not necessarily determine the highest or lowest numerical TN.

Operating parameters

Calls are forwarded one step only. For Call Forward No Answer enhancements, refer to the Call Forward, Second Level module.

Incoming calls on private lines with the Restricted Call Modification option enabled are not forwarded.

Flexible Call Forward No Answer DN (FDN) can be assigned to telephones with Message Waiting Allowed Class of Service. This is irrespective of the telephone's Class of Service and how forward no answer is specified in the Customer Data Block. Message Center always uses the FDN associated with the telephone to route unanswered calls.

Feature interactions

Advice of Charge for EuroISDN

Calls charged with Advice of Charge that are either transferred, extended or redirected to another set via Call Forward No Answer are charged against the last set that answers the call and the controlling set releases.

Attendant Administration

Attendant Administration can assign and change a Flexible Call Forward No Answer DN with the function key on the Attendant Console.

Attendant Alternative Answering

When Attendant Alternative Answering (AAA) DN does not answer, the call can be forwarded by CFNA to the DN defined as the CFNA DN for the originally dialed DN. If the originally dialed DN is the attendant, the call is forwarded to the CFNA DN defined for the AAA DN.

Attendant Blocking of Directory Number

The Attendant Blocking of DN feature will override the Call Forward No Answer feature. If the blocked DN of the set has the Call Forward No Answer feature active when the SACP key is pressed to ring the DN, the DN will ring until answered or disconnected. No Call Forward No Answer will be done for the Attendant Blocking of DN call.

Attendant Break-In to Inquiry Calls

The operation of Call Forward No Answer is overridden on a analog (500/2500 type) telephone that has inadvertently been placed on-hook during a Break-In conference to allow it to be re-run by the attendant.

If the controlling party goes on hook in a Break-In conference, and is being re-run by the attendant, the ringing takes precedence over Call Forward No Answer that may be applied to the set.

Attendant Overflow Position

A call rerouted through Attendant Overflow Position will Call Forward to the forwarding DN only if it is the Prime DN or a single appearance DN on that telephone.

Automatic Call Distribution

The Flexible Call Forward No Answer operation does not apply to Automatic Call Distribution (ACD) calls.

Automatic Set Relocation

Calls will not forward no answer to a telephone that is being relocated

Automatic Timed Recall

Flexible Call Forward No Answer timing takes precedence over Automatic Timed Recall timing. Irrespective of the relative time-out intervals for each feature, ringing continues as long as allowed by Call Forward No Answer.

Automatic Timed Reminders

When Call Forward No Answer is activated on a telephone, the slow answer timer begins only after the call reaches its final destination.

Call Detail Recording on Redirected Incoming Calls

The Call Detail Recording on Redirected Incoming Calls feature does not affect how the Call Forward No Answer feature operates; however, it does provide information about the answering party in the CDR ID field if incoming calls have been redirected by any one of these features.

Call Forward All Calls

Suppose that party A calls party B, and party B has programmed Call Forward All Calls to party C. Flexible Call Forward No Answer will forward a No Answer call at party C to the FDN associated with party B, the dialed DN.

Call Forward by Call Type

The sequence for forwarding unanswered calls is Call Forward All Calls, Message Waiting, Call Forward No Answer, then Attendant Recall (if the call is attendant-extended). The same sequence is used when Call Forward by Call Type is active for the customer.

Call Forward/Hunt Override Via Flexible Feature Code

Call Forward No Answer is overridden by the Call Forward/Hunt Override Via FFC feature, but there are no changes to the feature itself.

Call Forward No Answer, Second Level

Second Level Call Forward No Answer applies to the Hunt and Flexible Call Forward No Answer options. This is implemented by defining the FNAD, FNAT, or FNAL prompts in LD 15 as FDN or HNT. If the attendant option is defined, an unanswered call goes to the attendant queue and is not eligible for Second Level Call Forward No Answer.

The FNAN prompt is replaced by two new prompts, FNAT and FNAL, in X11 Release 10 and later.

Call Page Network Wide

Call Page Network Wide (PAGENET) does not block a station set from being programmed to Call Forward No Answer to an external Paging trunk. At call termination time, calls that are forwarded to an external PAGENET uncontrolled trunk are not blocked. However, calls forwarded to an external PAGENET controlled trunk are given access denied intercept treatment at the Paging node.

Call Redirection by Time of Day

Call redirection parameters for Call Forward No Answer are obtained from the originally dialed Directory Number. When Call Redirection by Time of Day (CRTOD) is activated, unanswered calls given CRTOD treatment are forwarded with CFNA according to the time of day. No changes are made to the existing CFNA feature.

Call Waiting

If a call to a telephone gets CFNA treatment to another telephone that is busy, Call Waiting and Camp-On do not apply. The call will attempt to terminate on the original DN again.

Call Waiting Redirection

Per existing Call Forward No Answer feature operation, the call redirection parameters for CFNA are obtained from the originally dialed DN for redirected calls.

Existing Network CFNA treatment is applied to calls receiving Call Waiting treatment on sets with CFNA and the Call Waiting Redirection feature enabled if the Call Waiting call is not answered before the expiration of the CFNA timer and the CFNA DN is on another node.

Calling Party Privacy

When an incoming trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be tandemmed to the far end to inhibit the display of the Calling Party Name or Number provided that the tandem node also has Calling Party Privacy (CCP) provisioned.

The CCP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outpulsed to the terminating node to inhibit the number of the forwarding set (i.e, at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

Camp-On

When the Call Forward No Answer timer expires for a ringing camped-on call, the call is given Attendant Recall treatment instead of Call Forward No Answer treatment.

China – Attendant Monitor

If an attendant attempts to monitor a DN which is Call Forwarded and is idle, idle DN treatment is given.

China – Toll Call Loss Plan

Toll pad switching is also provided after call forwarding has been completed. When the toll call is diverted, the diverted party's pad level is switched back to its original value (unless it is an OPS station using dynamic switching). The Toll Loss Plan is applied again for the new call as if it is a direct call. For Call Transfer, it is provided after the transferring party completes the transfer and drops out. For Call Forward or Hunting, it is provided when the forwarding or hunting call is answered.

Dial Access to Group Calls

Call Forward No Answer cannot be applied to a Group Call.

Departmental Listed Directory Number

Call Forward No Answer to the attendant operates like Call Forward to 0, and are routed to any idle Attendant Console in the customer group.

Directory Number Delayed Ringing

The Directory Number Delayed Ringing (DNDR) feature allows the SCN/MCN (non ringing keys) to actually ring after a definable period of time (DNDR prompt in LD 11). If the time before CFNA takes effect is less than the DNDR time for a particular set, CFNA will forward this call before any SCN/MCN keys can ring on this set. Note that CFNA is defined in the number of rings and DNDR is defined in seconds.

If the Forward DN set is busy or invalid when the call is forwarded, the call will return to the originally called set. However, the DNDR delay timer will be reapplied to the called set if DNDR is defined.

If a call is forwarded, as per existing operation, this call will be treated as a new incoming call to the forward DN. For example, if the forward DN has a DNDR value defined, a new timer will begin timing according to the forward DN's DNDR delay.

Direct Inward Dialing Call Forward No Answer Timer

Call Forward No Answer takes precedence over the Message Center feature.

Electronic Lock Network Wide/Electronic Lock on Private Lines

For Call Forwarding, the COS and NCOS used for the forwarding call can be taken from either the forwarding set or from the forwarded set, depending on the option defined in the Customer Data Block.

For example, set B call forwards all calls to an external trunk. Set A calls set B. If OPT = CFF in LD 15 (Call Forward forwarded to party's COS and NCOS), the COS and NCOS of set B are used for forwarding the call to the trunk. If OPT = CFO (Call Forward originating party's COS and NCOS), the COS and NCOS of set A are used for forwarding the call to the trunk.

Group Call

Group Call cannot be applied to Call Forward No Answer.

Group Hunt

Call Forward No Answer (CFNA) can optionally be configured to use a Pilot DN. This option is available when the HUNT DN or the FDN is defined as a Pilot DN.

If an idle station attempted for termination has CFNA defined, then the station will be rung. If the station does not answer within the customer specified number of ring cycles, then group hunting will continue with the next DN in the group. The calling party will continue to hear ring back tone until one of the termination conditions mentioned in [“Group Hunt” on page 1423](#) (the last condition is not applicable in this case) is met, or until they releases the call.

Group Hunting Queuing Limitation Enhancement

An external call is made to the PLDN. An idle group hunt list member station is rung but does not answer. If the member station has Call Forward No Answer (FNA) or Call Forward by Call Type Allowed (CFTA) Class of Service, then the call is transferred to the attendant after the number of ring cycles defined for Call Forward No Answer has been reached. If the call is an internal call, then the system searches for another idle group hunt list member.

Hot Line

Any Hot Line telephone can be assigned Call Forward No Answer but it applies only to the two-way Hot Line capability.

ICP Network Screen Activation, Flexible DN, Meridian Mail Interactions

When a call redirected by Call Forward All Calls, Call Forward No Answer, Call Forward Busy, or Hunt terminates on an Intercept Computer (ICP) position, a redirected message identification “50” is sent to the ICP computer, when the call is answered.

Incoming Call Indicator Enhancement

When a DID call to a station that is unrestricted from receiving DID calls (UDI Class of Service) is forwarded to a UDI station due to Call Forward No Answer, the call is not RDI-intercepted to the attendant. The dialed party continues to ring. If the call has been forwarded to the attendant, the Call Forward No Answer ICI lights up, and not the RDI-intercept ICI.

Listed Directory Numbers, Network Wide

A Listed Directory Number (LDN) that is assigned to an Incoming Call Indicator (ICI) has a higher priority than a CFNA ICI. When a call is forwarded to an LDN via Flexible DN, the call is presented on an LDN ICI.

Meridian Mail Operator Revert

Prior to X11 Release 13.32, Operator Revert was used to transfer a call from an ACD Message Center (Meridian Mail). The originally dialed number was not passed on to the person that received the transferred call.

With X11 Release 13.32 and later the Called Party ID can be passed along from the ACD Message Center when Operator Revert is activated. The attendant can now activate the Message Waiting key for the Called Party while active on the redirected call by pressing the Message Indicator key.

For example, Party A calls Party B, which Call Forward No Answers to Meridian Mail. Party A dials 0 and is transferred to a message center with “live” agents. The agent receiving the call sees information for Party B along with the information for Party A, the calling party.

Multi-Party Operations

For Call Transfer with Ring No Answer (RGNA) if the user has selected an option other than Standard, the optional treatment has priority over the CFNA option selected in the LD 15. If the user has chosen the standard option for RGNA, the call will be treated as a normal CFNA call, and handled according to the options selected for CFNA in LD 15. Once the call is routed to a Night DN during recovery of mis-operation and the Night DN does not answer, the call is treated according to the NFNA and FDN options chosen for the Night DN. The Night DN can use flexible CFNA DN in two levels. MPO mis-operation does not change the operation of the DNFD timer if one has been configured in LD 15.

Multiple Appearance Directory Number Redirection Prime

The MARP TN always controls the call redirection for Call Forward No Answer.

- If a DN is assigned as a Prime DN on a telephone and as a secondary DN on one or more telephones, the DN list is still organized as described in the preceding paragraphs. If only one prime appearance of a DN exists, however, call redirection parameters are derived from the TN of the prime appearance telephone, even though it may not be at the end of the list. A prime appearance is always the first TN used when the system looks for call redirection instructions.
- If a DN appears on analog (500/2500 type) telephones, and Meridian 1 proprietary telephones, the analog (500/2500 type) telephones are listed in numerical TN order at the top of the list. Meridian 1 proprietary telephones are listed in numerical TN order at the bottom of the list. A service change to an analog (500/2500 type) telephone moves its TN to the beginning of the list. A service change to a Meridian 1 proprietary telephone moves its TN to the end of the list.
- A SYSLOAD restructures the list back to numerical TN order with analog (500/2500 type) telephones at the top and Meridian 1 proprietary telephones at the bottom. Call redirection parameters continue to be derived as described in the preceding paragraphs.

Network Intercom

Hot Type I calls respect or override all kinds of Call Forward features (Busy, No Answer, All Calls, Internal, etc.) according to per-set definitions. If Call Forward is respected, the call becomes a normally dialed call and the originator will receive the appropriate indication on their display.

Network-Wide Listed Directory Number

A Listed Directory Number(LDN) ICI has a higher priority than a Call Forward No Answer ICI. When a call is forwarded to an LDN via Flexible DN, the call is presented on an LDN ICI.

Night Service enhancements

Any call which has been presented to the Attendant Overflow Position cannot be removed from the console and requeued by pressing the Make Set Busy (MSB) key. The call will only be removed if the Attendant Forward No Answer feature is active, and the Attendant Forward No Answer Timer has timed out. In this case, the call is requeued and the Attendant Overflow Position is idled.

Periodic Pulse Metering

Metered calls transferred or extended from one station to another using the Call Forward No Answer are charged against the last station at which the call is answered as the controlling station releases. The last party to forward a call onto a metered Periodic Pulse Metering trunk is charged.

Recall to Same Attendant

If the attendant does not answer a call and the Attendant Forward No Answer feature is equipped, the console is forced into the Position Busy state and the call routed to the first available idle attendant.

Recorded Announcement for Calls Diverted to External Trunks

Recorded Announcement for Calls Diverted to External Trunks (RANX) is activated if the call is forwarded to an outgoing external CO trunk with the RANX feature active.

Recovery on Misoperation of Attendant Console

Call Forward No Answer takes precedence over the Misoperation feature.

Ring Again on No Answer

If an unanswered call is forwarded to another station by Call Forward No Answer, Ring Again on No Answer is applied to the originally dialed station.

Slow Answer Recall for Transferred External Trunks

If the ringing station to which the call has been transferred has Call Forward No Answer active, the call will be transferred to the call forward DN after the specified number of ring cycles.

Total Redirection Count

If a call has attempted Call Forward No Answer and was extended by the attendant, the call will not be intercepted when the Total Redirection Count limit has been exceeded. The call will continue to ring the set until recalled to the attendant.

Trunk Barring

If an Originating Trunk Connection is forwarded to a barred route, it receives the intercept treatment specified in the Customer Data Block.

Feature packaging

Call Forward No Answer/Flexible Call Forward No Answer is included in base X11 system software.

Feature implementation

LD 15 – Define Call Forward No Answer for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- ICI	xx CFN	Attendant Incoming Call Indicator for Call Forward No Answer, where: xx = key number (00-19).
TYPE	RDR	Release 21 gate opener.
- FNAD	(HNT) ATT FDN NO	Forward No Answer DID calls to the Hunt number. Forward No Answer DID calls to the attendant. Forward No Answer DID calls to the Flexible CFNA DN. No Answer DID calls are not forwarded.
- FNAT	(HNT) ATT FDN NO	Forward No Answer external calls to the Hunt number. Forward No Answer external calls to the attendant. Forward No Answer external calls to the Flexible CFNA DN. No answer external calls are not forwarded.
- FNAL	(HNT) ATT FDN NO	Forward No Answer local calls to the Hunt number. Forward No Answer local calls to the attendant. Forward No Answer local calls to the Flexible CFNA DN. No Answer local calls are not forwarded.
- CFNA	1-(4)-15	Number of ringing cycles before No Answer calls are forwarded (default is 4). Note: In X11 Release 9 and earlier, the FNAN prompt takes the place of the FNAT and FNAL prompts.

LD 10 – Add/change Flexible Call Forward No Answer for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(FND) FNA	(Deny) allow Call Forward No Answer.
FTR	FDN xxxx...x	Flexible Call Forward No Answer DN (if the DN Expansion package is equipped, the DN can have up to 13 digits).

LD 11 – Add/change Flexible Call Forward No Answer for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
FDN	xxx...x	Flexible Call Forward No Answer DN (if the DN expansion package is equipped, the DN can have up to seven digits).
CLS	(FND) FNA	(Deny) allow Call Forward No Answer.

LD 10 – Implement Call Forward No Answer to the Hunt DN on analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
HUNT	xxxx	Hunt DN where a No Answer call is to be routed (if the DN Expansion package is equipped, the DN can have up to 10 digits).
CLS	(FND) FNA	(Deny) allow CFNA.

LD 11 – Implement Call Forward No Answer to the Hunt DN on Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(FND) FNA	(Deny) allow CFNA.
HUNT	xxxx	Hunt DN where a No Answer call is to be routed (if the DN Expansion package is equipped, the DN can have up to 10 digits).

Feature operation

No specific operating procedures are required to use this feature.

Call Forward No Answer, Second Level

Second Level Call Forward No Answer enhances Flexible Call Forward No Answer by forwarding unanswered calls twice. The following example best illustrates this enhancement.

Party A places a call to extension 5000, which does not answer. Extension 5000 has Call Forward No Answer (CFNA) allowed and extension 6000 defined as its CFNA number. The call forwards to extension 6000. This is the first level CFNA.

Extension 6000 also does not answer the call. This telephone has a Call Forward No Answer and Second Level Call Forward No Answer allowed Class of Service (FNA and SFA). As it has a CFNA number of 7000, it forwards there. This is the second level of Call Forward No Answer. Note that the forwarding DN is always obtained from the currently ringing telephone.

If extension 7000 does not answer the call, one of two things may occur:

- If the original call is a Direct Inward Dialing (DID) or internal call, the forwarded call continues to ring until answered or the calling party disconnects.
- If the original call is extended by the Attendant Console, Attendant Recall occurs.

Second Level Call Forward No Answer uses the same customer-level timer as Flexible Call Forward No Answer to determine the number of rings before forwarding a call.

Telephones with a message waiting allowed (MWA) Class of Service should have the Message Center DN defined as their FDN. Calls to these telephones forward to the Message Center and are not eligible for Second Level Call Forward No Answer.

Call Forward No Answer Second Level for Message Waiting Allowed Telephones, X11 Release 15 and later enables an SFA Class of Service to be defined on telephones with a Message Waiting Allowed (MWA) Class of Service. Thus, a message waiting indication can be activated at the originally dialed DN for Second Level CFNA calls terminating at a message center.

Requirements at the dialed DN for first-level CFNA are as follows:

- Flexible Call Forward No Answer or Hunting is allowed at the customer level for the incoming call type (DID, non-DID, or internal).
- The telephone has an FNA Class of Service.
- The terminating call has rung for the number of rings specified for CFNA or DFNA in the Customer Data Block (LD 15).
- The forwarding DN (Flexible Call Forward No Answer DN [FDN], Coordinated Dialing Plan DN [CDP DN], External Flexible DN [EFD], Hunting [HNT], or External Hunt [EHT]) must be distinct from the ringing DN and be a valid number within the system.

Requirements at the originally called telephone DN for Second Level Call Forward No Answer are as follows:

- Flexible Call Forward No Answer or Hunting is allowed at the customer level for the incoming call type (DID, non-DID, or internal).
- The telephone has SFA and FNA Class of Service.
- Call Forward No Answer has occurred only once prior to ringing this telephone.
- The forwarding DN (FDN, EFD, Hunt, or EHT) must be distinct from the ringing DN and must be a valid number within the system.

The order of precedence for activation of first level Call Forward No Answer is as follows:

- Call Forward All Calls
- Message Waiting
- Call Forward No Answer, and
- Attendant Recall.

The order of precedence for activation of Second Level Call Forward No Answer is as follows:

- Call Forward All Calls
- Second Call Forward No Answer (CFNA calls only)
- Attendant Recall

Operating parameters

A maximum of two levels of Call Forward No Answer are allowed for an unanswered call.

Calls directed to an attendant or Automatic Call Distribution (ACD) Message Center cannot have Second Level Call Forward No Answer.

Attendant Administration cannot change the SFA/SFD Class of Service. Error messages are generated if changes made to the Forward No Answer or Hunt Class of Service conflict with the SFA/SFD Class of Service.

Feature interactions

Automatic Timed Reminders

When Call Forward No Answer is activated on a telephone, the slow answer timer begins only after the call reaches its final destination.

Call Forward All Calls

Second Level Call Forward No Answer uses the final (ringing) telephone in the chain to obtain Class of Service and forwarding DN information.

First level treatment operates in the following manner. Suppose that Party A calls Party B, and Party B has programmed Call Forward All Calls to Party C. Flexible Call Forward No Answer will forward a No Answer call at Party C to the forwarding directory number associated with Party B, the dialed DN.

Call Forward by Call Type

To implement Call Forward by Call Type for Second Level Call Forward No Answer eligible calls, the originating party's call type is checked. If it is internal, the call is forwarded to the Flexible Call Forward No Answer DN (FDN). If it is external, the call is forwarded to the External Flexible DN (EFD).

Call Redirection by Time of Day

Existing Second Level CFNA allows unanswered calls to receive Call Forward No Answer treatment twice. Call Redirection by Time of Day (CRTOD) parameters are obtained from the last rung Directory Number. A maximum of two levels of CFNA is allowed for an unanswered call.

Call Waiting Redirection

The existing Second Level CFNA treatment is applicable to Call Waiting calls redirected by CFNA (first level) with the Call Waiting Redirection feature which are still not answered at the last rung DN.

Calling Party Privacy

When an incoming trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be tandemmed to the far end to inhibit the display of the Calling Party Name or Number provided that the tandem node also has Calling Party Privacy (CCP) provisioned.

The CCP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outpulsed to the terminating node to inhibit the number of the forwarding set (i.e., at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

Directory Number Delayed Ringing

The Directory Number Delayed Ringer (DNDR) feature allows the SCN/MCN (non ringing keys) to actually ring after a definable period of time (DNDR prompt in LD 11). If the time before CFNA takes effect is less than the DNDR time for a particular set, CFNA will forward this call before any SCN/MCN keys can ring on this set. Note that CFNA is defined in the number of rings and DNDR is defined in seconds.

If the Forward DN set is busy or invalid when the call is forwarded, the call will return to the originally called set. However, the DNDR delay timer will be reapplied to the called set if DNDR is defined.

If a call is forwarded, as per existing operation, this call will be treated as a new incoming call to the forward DN. For example, if the forward DN has a DNDR value defined, a new timer will begin timing according to the forward DN's DNDR delay.

Call Forward No Answer

Second Level Call Forward No Answer applies to the Hunt and Flexible Call Forward No Answer options. This is implemented by defining the FNAD, FNAT, or FNAL prompts in LD 15 as FDN or HNT. If the attendant option is defined, an unanswered call goes to the attendant queue and is not eligible for Second Level Call Forward No Answer.

The FNAN prompt is replaced by two new prompts, FNAT and FNAL, in X11 Release 10 and later.

Distinctive/New Distinctive Ringing

The ringing cadence for all telephones in a chain of call redirections remains the same as for the original DN called.

Group Hunt

Second Level Call Forward No Answer will not be applied to calls that are Group Hunting.

Hunting

A forwarded call may be modified by Hunting if the Call Forward No Answer DN is busy. This call is eligible for Second Level Call Forward No Answer if the SFA Class of Service is allowed and a Call Forward No Answer DN has been defined for the last rung DN.

If Group Hunting is active, Second Level CFNA is not applied.

Message Centers

There are three types of Message Centers:

- Automatic Call Distribution (ACD)
Calls forwarded to an ACD Message Center are queued, so that no CFNA timeout occurs.
- Attendant
Calls forwarded to an Attendant Message Center are queued, so no CFNA timeout occurs.
- DN
An indirect call forwarded to a DN Message Center and not answered by an operator is forwarded to a second level if SFA for DN-MC.

Note: It is recommended that DN Message Center stations be denied CFNA, Call Forward Busy (CFB), Call Forwarding (CFW), and Call Hunting (HUNT).

Multiple Appearance Directory Numbers

Call redirection parameters like Hunt and Call Forward No Answer are derived from the TN data block (LD 20 TNB) of the prime appearance of the called Multiple Appearance Directory Number (MADN). If there is more than one prime appearance, the parameters are selected from the last TN in the DN block for the DN (LD 22 DNB).

If more than one prime appearance of a MADN exists, the following information must be considered prior to configuring call redirection parameters for MADNs.

The DN Block organizes MADN information in numerical TN order. The TN with the highest numerical value (000-0-06-03) is placed at the beginning of the list. The list then continues in descending order with the lowest numerical TN (000-0-03-01) at the end of the list. Service change activity affects the organization of the DN list as described in the following paragraphs.

- If a telephone undergoes Service Change, its TN is moved to the beginning of the DN list, irrespective of the numerical value. This telephone remains at the beginning of the list until another Service Change or a SYSLOAD.
- If a DN is assigned as a Prime DN on a telephone and as a secondary DN on one or more telephones, the DN list is still organized as described in the preceding paragraphs. If only one prime appearance of a DN exists, however, call redirection parameters are derived from the TN of the prime appearance telephone, even though it may not be at the end of the list. A prime appearance is always the first TN used when the system looks for call redirection instructions.

- If a DN appears on analog (500/2500 type) telephones, and Meridian 1 proprietary telephones, the analog (500/2500 type) telephones are listed in numerical TN order at the top of the list. Meridian 1 proprietary telephones are listed in numerical TN order at the bottom of the list. A service change to an analog (500/2500 type) telephone moves its TN to the beginning of the list. A Service Change to a Meridian 1 proprietary telephone moves its TN to the end of the list.
- A SYSLOAD restructures the list with analog (500/2500 type) telephones at the top and Meridian 1 proprietary telephones at the bottom. Call redirection parameters continue to be derived as described in the preceding paragraphs.

Recovery on Misoperation of Attendant Console

Call Forward takes precedence over the Misoperation feature.

Slow Answer Recall

When a Call Forward No Answer call is unanswered at a telephone eligible for Second Level Call Forward No Answer, and the call was extended by an attendant, Second Level Call Forward No Answer takes precedence over Slow Answer Recall. If the telephone has a Second Level Call Forward No Answer Denied Class of Service, the system performs Slow Answer Recall for the unanswered call.

Total Redirection Count

If a call has attempted Call Forward No Answer and was extended by the attendant, the call will not be intercepted when the Total Redirection Count limit has been exceeded. The call will continue to ring the set until recalled to the attendant.

Trunk Barring

If an Originating Trunk Connection is forwarded to a barred route, it receives the intercept treatment specified in the Customer Data Block.

Feature packaging

Call Forward No Answer Second Level is included in base X11 system software.

Feature implementation

LD 15 – Assign Message Center to allow the Message Waiting indication.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB FTR	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- OPT	(MCX) MCI	(Exclude) include Message Center.

LD 10 – Add/change Second Level Call Forward No Answer for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(FND) FNA (MWD) MWA (SFD) SFA	(Deny) allow Forward No Answer. (Deny) allow Message Waiting. (Deny) allow second level CFNA Note: To implement SFA in X11 Release 14 and earlier, specify both FNA and MWD. X11 Release 15 and later allow SFA to be implemented with an MWA Class of Service.
FTR	FDN xxxx...x	Flexible Call Forward No Answer DN.

LD 11 – Add/change Second Level Call Forward No Answer for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
FDN	xxx...x	Flexible Call Forward No Answer DN.
CLS	(FND) FNA (MWD) MWA (SFD) SFA	(Deny) allow Forward No Answer. (Deny) allow Message Waiting. (Deny) allow Second Level CFNA Note: To implement SFA in X11 Release 14 and earlier, specify both FNA and MWD. X11 Release 15 and later allow SFA to be implemented with an MWA Class of Service.

Feature operation

No specific operating procedures are required to use this feature.

Call Forward, Remote (Attendant and Network Wide)

Prior to Release 20, the Remote Call Forward (RCFW) feature allowed a user to administer call forward from a remote set within the Meridian 1 or from outside the Meridian 1 through the Direct Inward System Access (DISA) number. The RCFW feature was not available on a network wide basis, nor was it applicable to Attendant Consoles. This enhancement introduces the RCFW feature across the Meridian Customer Defined Network (MCDN), while also providing the attendant with RCFW capabilities. New ISDN FACILITY messages are used to facilitate the RCFW feature operation in an MCDN.

The feature capabilities of the set-based (Flexible Feature Code activated) network wide application of the RCFW feature match those of the current standalone RCFW feature.

The attendant RCFW functionality is controlled by a new flexible Attendant key (RFW). The attendant has the capability to view the current call forward number and determine the call forward status of any station. It is also possible for an attendant to activate or deactivate call forward for a particular station. This functionality is applicable both local within the Meridian 1 and network wide.

A new optional customer-based password is introduced for attendant RCFW operation. This password is configured in LD 15 and is the only password required for attendant RCFW operation. The station control password previously used by the Flexible Feature Code (FFC) set-based RCFW is not required when the attendant activates RCFW by pressing the RFW key.

Operating parameters

The network wide application of this feature is only applicable to nodes in an MCDN environment. The nodes in the network must be Meridian 1 switches, running a minimum of Release 20 software. No other Central Office (CO) or PBX type is supported for this feature operation.

For set-based network operation of the Remote Call Forward feature, the Station Control Password Length (SCPL) must be configured to be the same length for all nodes in the network. Attempts to operate RCFW with different SCPLs will result in overflow tone being presented to the user.

For network operation of the RCFW feature, the Private Network Identifier (PNI) must be configured consistently for all nodes in the network.

The Attendant and Network Wide RCFW features use the existing RCFW code to activate or deactivate call forward on stations. As such, all limitations applicable to the local RCFW feature are applicable to the network and attendant operation of the feature.

As the Swedish CD Attendant Console does not support alpha characters, the "PWD" prompt is not displayed on the console's digit display when a password is required. The indication that a password is required is limited to the winking RFW key lamp.

No new hardware is required for this feature.

Feature interactions

Basic Rate Interface (BRI)

Since ISDN BRI sets do not support Flexible Feature Codes, Remote Call Forward cannot be activated from a BRI set.

Call Forward Activation from any Feature Call Forward and Busy Status

There are no direct conflicts with either of these features and the RCFW feature.

Call Forward Destination Deactivation

Remote Call Forward (RCFW) and Call Forward Destination Deactivation (CFDD) provide the same functionality but are activated differently. CFDD does not require the call forward station's control password to deactivate the call forward functionality on the call forward station.

The call forwarded destination can use the Remote Call Forward deactivation FFC as well as CFDD to deactivate the Call Forward All Calls functionality on the call forward station.

Calling Party Privacy

When an incoming trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be tandemmed to the far end to inhibit the display of the Calling Party Name or Number provided that the tandem node also has Calling Party Privacy (CCP) provisioned.

The CCP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outpulsed to the terminating node to inhibit the number of the forwarding set (that is, at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such, as *67 + ACOD + the DN on the terminating node).

Multiple Appearance Directory Numbers

The RCFW feature only applies to the primary appearances of Multiple Appearance DNs, and it is recommended that only one appearance of a Multiple Appearance DN be configured as the prime DN.

For the case of multiple stations with the same prime DN and SCPW, the RCFW operation will apply to the station that has the Multiple Appearance Redirection Prime (MARF) assigned to it.

If none of the stations having the DN and SCPW assigned are configured as the MARF TN for that DN, the RCFA and RCFD will apply to all stations matching the DN and SCPW.

The attendant-based RCFW feature will only apply remote call forward operation to the prime DN with MARF status. If the DN is not the prime DN or does not have MARF status, overflow tone will be received by the user.

Outpulsing of Asterisk and Octothorpe (OPAO)

If the OPAO package is equipped, the “#” will be treated as any other dialed digit and will not be used to signal end of dialing. The end of dialing digits to be used are defined in LD 15.

Phantom Terminal Numbers (TNs)

A Phantom TN does not physically exist, but can be configured with limited hardware associated with it (that is, no sets or line cards); however, all required data blocks are configured.

The Phantom TN feature uses the RCFW feature to configure and activate/deactivate the CFW DN on the Phantom TNs.

As the data blocks associated with Phantom TNs match those of standard analog (500/2500 type) telephones configured within the Meridian 1, the operation of the RCFA and RCFD features on Phantom TNs is applicable to the RCFW feature. As such, the set-based local and network RCFW features can be used to configure and activate/deactivate the CFW DN of Phantom TNs.

The Phantom TN feature uses a Default Call Forward (DCFW) DN. If call forward is not active on the Phantom TN, all calls to the Phantom TN DN are routed to the DCFW DN.

The Phantom TN feature modifies the set-based RCFW feature so that if CFW is not active on the Phantom TN, and the CFW DN entered in the RCFV operation matches the DCFW DN, confirmation tone is returned to the RCFV user; if the CFW DN entered does not match the CDFW DN, overflow is returned.

This change to the set-based RCFV operation is applicable to the network RCFV operation. The operation of this feature network wide requires no changes to the ISDN message passing for the set-based network RCFV operation.

There is no Attendant RCFW operation which interacts with the DCFW DN of Phantom TNs.

Preventing Reciprocal Call Forward

When Preventing Reciprocal Call Forward Allowed (PVCA) is defined in LD 15, a set within the same customer configuration cannot be call forwarded to a set that is call forwarded back to it. Thus, CFW loops are prevented.

This feature applies when the CFW DN is changed by Remote Call Forward. For network operation of the set- and attendant-based RCFW features, entering an invalid CFW DN (under the rules of the PRCF feature) results in overflow tone being returned and the CFW DN being ignored.

Traffic Measurements

The peg count, for the attendant RFW key, will be generated on the first RFW key press of the RCFW operation. While the RFW key may be pressed multiple times during a single RCFW function, the peg count will only be implemented once.

The RFW key peg count will be included in the TFC005 feature key usage traffic report.

Feature packaging

The Attendant Remote Call Forward (ARFW) package 253 must be provisioned to activate the Attendant-based RCFW feature.

For network operation the following software packages are required:

- Integrated Services Digital Network (ISDN) package 145
- Network Alternate Route Selection (NARS) package 58
- Any other trunk or dialing plan packages, as required by the customer's configuration

The following are prerequisites for set-based RCFW:

- Optional Features (OPFT) package 1
- Flexible Feature Codes (FCC) package 139
- Controlled Class of Service (CCOS) package 81

The following are prerequisites for implementation on analog (500/2500 type) telephones:

- Special Service for 2500 Sets (SS25) package 18
- 500 Set Dial Access to Features (SS5) package 73

Feature implementation

Set-based Configuration

LD 15 – Set the Station Control Password Length.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB FFC	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- SCPL	0-8	Station Control Password Length (must be consistent network wide).
- FFCS	YES	Change end of dialing digits in FFC.
-- STRL	1-3	Number of digits to indicate FFC end of feature activation.
-- STRG	(#), xxx	One to three digits to indicate FFC end of a feature activation.

LD 15 – Configure a Special Prefix Number (SPRE) for the customer.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB FTR	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- SPRE	xxx	Special Prefix Number.

LD 57 – Define Remote Call Forward FFCs and set FFCT.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	FFC	Flexible Feature Codes.
CUST	xx	Customer number.
FFCT	(NO) YES	Confirmation tone is (is not) to be given after an FFC.
CODE	RCFA	Remote Call Forward Activate.
RCFA	xx	xx = RCFA code.
CODE	RCFD	Remote Call Forward Deactivate.
RCFD	xx	xx = RCFD code.
CODE	RCFV	Remote Call Forward Verify.
RCFV	xx	xx = RCFV code.

LD 10 – Set the Station Control Password and allow Call Forward.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Loop, shelf, card, and unit. Card, and unit (Option 11).
...		
FTR	CFW 4-(16)-23	Allow Call Forwarding and set the forwarding DN length.

LD 11 – Set the Station Control Password and allow Call Forward.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Loop, shelf, card, and unit. Card, and unit (Option 11).
SCPW	xxxxxxx	Station Control Password (0 to 8 digits, defined in LD 15).
KEY	xx CFW 4-(16)-23	Assign Call Forward key (xx) and set the forwarding DN length.

Attendant-based Configuration

LD 12 – A new Flexible Attendant feature key, RFW, has been added to this overlay. Configuration of the key on the Attendant Console is required to allow attendant access to the RCFW feature. Configuration of the RFW key is only allowed if the ARFW package is equipped.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	ATT 1250 2250	Attendant type – the RFW key can be configured on QCW4, M1250, M2250 and Swedish CD Attendant Consoles.
TN	l s c u c u	Loop, shelf, card, and unit. Card, and unit (Option 11).
...		
KEY	xx RFW	Key number assigned as Attendant Remote Call Forward key.

LD 15 – Configure the Attendant RCFW password.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
...		
- IRFR	(NO) YES	Internal Remote Call Forward Password required. Note: An internal password is the password required to perform an attendant RCFW operation within the same customer as the attendant.
- - IRFP	xxxxxxxx	Internal RCFW Password (only prompted if the response to IRFR is YES). The password length is one to eight digits; the password is numeric only.
- XRFR	(NO) YES	External Remote Call Forward Password required. Note: An external password is the password required to perform an attendant RCFW operation on a different customer than the attendant.
- XRFP	xxxxxxxx	External RCFW password (only prompted if the response to XRFR is YES). The password length is one to eight digits; the password is numeric only.

Feature operation

Network Wide Set-based Remote Call Forward

From the remote set dial:

- 1 FCC RCFA code.
- 2 SCPW for the set to be forwarded.
- 3 The complete DN of the set to be forwarded. This DN is the full DN required to call the set to be forwarded from the user's present location.

Expected Result: Confirmation tone is delivered to the user.

From the remote set continue dialing:

- 4 The CFW DN to be activated followed by the end of dial indicator (#).

Expected Result: Confirmation tone is delivered to the user.

Error Condition: If an error should occur during set-based RCFW, the user will be presented with an Overflow tone. To remove the error condition, the user must release from the operation and begin again.

Attendant-based Remote Call Forward

From the Attendant Console, perform the following:

- 1 Press an idle loop key followed by the RFW key.

Expected Result: The RFW key is flashing and the Loop key is steady lit.

- 2 Dial the DN of the set to be forwarded.

Expected Result: If a password is required, the RFW key is winking, and the console display shows "PWD -". If the console does not support alpha characters, the display will be blank.

If a password is not required, the console display will show the DN of the set to be forwarded followed by the CFW DN stored on that set. The RFW key lamp will display the status of the CFW DN. If the RFW lamp is flashing, CFW is not active; if the RFW lamp is steady lit, CFW is active. Proceed to Step 4.

- 3 Dial the password followed by #.

Expected Result: The console display will show the DN of the set to be forwarded followed by the CFW DN stored on that set. The RFW key lamp will display the status of the CFW DN. If the RFW lamp is flashing, CFW is not active; if the RFW lamp is steady lit, CFW is active.

- 4 The user can now enter a new CFW DN or press the RFW key to activate or deactivate the stored CFW DN.

Expected Result: The console display will show the DN of the set to be forwarded followed by the CFW DN. If the RFW lamp is flashing, CFW is not active; if the RFW lamp is steady lit, CFW is active.

- 5 When RCFW operation is in this state, the user has the following three options:
- Press the Release or Release Source key to terminate RCFW operation.
 - Press the RFW key to reverse the CFW status.
 - Enter a new CFW DN to begin the task of changing the CFW DN programmed. The new CFW DN is not active until the RFW key is pressed again.

Error Condition: If an error should occur during the attendant-based RCFW, the user will be presented with an Overflow tone. To remove the error condition, the user must release from the operation and begin again.

Call Forward Save on SYSLOAD

This feature enables sets to have their Call Forward (CFW) status saved as part of the data dump routine, thereby allowing the set to have its CFW status reinstated following a SYSLOAD. Whether a set has Call Forward activated following a SYSLOAD is dependant on the response to the Call Forward Save (CFWS) prompt in LD 17, and the status of the CFW as of the last successful data dump:

- If CFWS is set to NO (the default), no sets will have their CFW saved and all sets will have CFW set to the default (deactivated) following a SYSLOAD; or
- If CFWS is set to YES, all sets will have their CFW status saved and set to the state they were in as of the last successful data dump following a SYSLOAD.

Operating parameters

There are no feature requirements.

Feature interactions

Call Forward All Calls

Call Forward by Call Type

The Call Forward status of each telephone can be saved as part of the data dump routine and reinstated following a SYSLOAD operation.

Feature packaging

The Call Forward Save on SYSLOAD feature is part of X11 base software.

Feature implementation

LD 17 – Add or change Call Forward Save on data dump.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CFN PARM	Configuration Record. Release 19 gate opener.
...		
MSCL	...	
- CFWS	(NO) YES	Call Forward Save on SYSLOAD.

Feature operation

If CFWS = YES, the Call Forward status of every set is saved at data dump. Should a SYSLOAD occur, all sets are returned to the Call Forward state that they were in as of the last successful data dump.

Call Forward to Trunk Restriction

The Call Forward to Trunk Restriction feature prevents Meridian 1 stations from forwarding calls from their station to a Public Switched Telephone Network (PSTN) trunk. This conforms with the regulatory requirements of certain countries.

A second option of this feature allows calls to be forwarded to a PSTN trunk, as in previous operation, while recording the internal DN of the originating station (rather than the forwarding station) in the Call Detail Recording (CDR) record.

Operating parameters

The CDR option can only be applied to calls originated by internal telephones. Only the true originator's DN is recorded.

Feature interactions

There are no interactions with other features.

Feature packaging

International Supplementary Features (SUPP) package 131.

Feature implementation

LD 16 – Create or modify the data blocks for trunk routes.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	RDB	Route Data Block.
...		
CFWR	(NO) YES	Call Forward Restriction (does not) does apply to the trunk route. If NO is the response, the IDOP prompt follows.
- IDOP	(NO) YES	Identify Originating Party. Responding YES modifies the trunk CDR for internal calls to identify the originating party instead of the forwarding station. If NO is the response, CDR is allowed to proceed as usual.

Feature operation

No specific operating procedures are required to use this feature.

Call Hold, Deluxe

Deluxe Call Hold (DHLH) offers two options: Individual Hold and Exclusive Hold.

Individual Hold indicates only those calls placed on hold on Meridian 1 proprietary telephones in a multiple appearance, single call arrangement. When a user puts a call on hold, normal hold (winking) is indicated at the user's telephone only. A slow flicker is shown at all other telephones with the multiple appearance.

With Exclusive Hold Class of Service, multiple appearances of a line remain exclusive to the user's telephone, even when the call is put on hold. While hold (winking) is indicated at the telephone holding the call, the Directory Number (DN) lamp is steadily lit on all other appearances of the held call. The Privacy Release key must be used for access by other appearances of the DN. Telephones with the Exclusive Hold capability can be held at any single-line, SL-1, or Meridian digital telephone with an appearance.

Operating parameters

Exclusive Hold has priority over Individual Hold. If a telephone is equipped with Exclusive Hold, the other telephones receive the Exclusive, not Individual, Hold indication.

Feature interactions

Attendant Administration

Deluxe Hold (DHLH) cannot be administered through the Attendant Administration feature.

Attendant Break-In

The attendant cannot break in to a call on hold.

**Camp-On, Forced
Override, Enhanced
Override, Priority**

Neither held calls nor telephones with calls on hold can be camped on or overridden. Overflow (fast busy) tone is returned to telephones attempting either Forced Camp-on or Priority Override.

Call Hold, Deluxe

When a call is retrieved from hold, the calling and called parties' displays reflect their individual DPD Class of Service options.

Call Park on Unsupervised Trunks

A Disconnect Timer applies to held calls on all trunks on the route. All answered calls in the held state will be disconnected if left in that state for an extended period.

Call Party Name Display

When a call is put on hold, the holding telephone's display clears. The held telephone's display does not change. When the telephone reestablishes the call, the display returns the original DN and name.

Call Transfer

A consultation call can be placed on Hold.

Called Party Control on Internal Calls

The calling party and called party can put either party on hold. However, the calling party cannot release the call while the called party is on hold. The called party is permitted to release the call.

Calling Party Privacy

When a user takes an incoming trunk call with the Privacy Indicator off of hold, no Calling Party Number or Name will be displayed on the set.

Digital Private Signaling System #1 (DPNSS1) Executive Intrusion

Executive Intrusion is denied if the requested party is put on hold by another station at the same node. This restriction also applies to the unrequested party if the unrequested party is located at the same node as the requested party (standalone) or if the requested party and the unrequested party are linked via DPNSS1.

Mixed DNs

If a call is put on Exclusive Hold in a mixed Directory Number (DN) group, other telephones with an appearance of the DN that go off hook are not included in the call, nor do they receive any tone. Privacy Release cannot be used with exclusively held calls in a mixed-appearance DN group.

Music, Enhanced

A caller placed on Hold by a member of a multiple appearance group receives Music regardless of whether the call is on Hold or Exclusive Hold.

Predictive Dialing

If an established call is put on hold by the set initiating the Fast Transfer, the switch will not be able to transfer the call. The switch can only transfer a call if it is in the established state.

Feature packaging

Deluxe Hold (DHLD) package 71 has no feature package dependencies.

Feature implementation

LD 15 – Enable/disable Individual Hold for the customer.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB FTR	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- OPT	(IHD) IHA	(Disable) enable Individual Hold.

LD 10 – Enable/disable Exclusive Hold for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(XHD) XHA	(Disable) enable Exclusive Hold.

LD 11 – Enable/disable Exclusive Hold for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(XHD) XHA	(Disable) enable Exclusive Hold.

Feature operation

No specific operating procedures are required to use this feature.

Call Hold, Individual Hold Enhancement

Individual Hold Enhancement (IHE) expands the functionality of the Individual Hold feature. This enhancement is part of Deluxe Call Hold. Individual Hold Enhancement provides, in a single line Multiple Appearance Directory Number (MADN) environment, the following options:

- Lamp Option
- Release Option

With the Lamp Option allowed (HLP A), if one of the single line MADNs is on hold, all other appearances of the same single line MADN now remain steadily lit.

With the Lamp Option denied (HLP D), the existing Individual Hold functionality is retained.

With the Release Option allowed (HRL A), if the user presses the Hold key while another member of the same single line MADN is still active on the call, the set that put the call on hold is now disconnected from the call.

With the Release Option allowed (HRL A), if the user is the only active member of the single line MADN on the call, pressing the hold key puts the call on hold as per the existing operation.

With the Release Option denied (HRL D), the existing Individual Hold functionality is retained.

Table 31 shows the lamp status of a single line MADN when the Lamp (HLPD/HLPD) and Release (HRLA/HRLD) Options are configured in Overlay 15.

Table 31

Lamp Status of a single line MADN with Lamp (HLPD/HLPD) and Release (HRLA/HRLD) Options configured

OPT in LD 15	Held or Disconnected Appearance	Other Appearances
IHA, HLPD, HRLD (See Note 1)	wink (held appearance)	flicker
IHA, HLPD, HRLD	wink (held appearance)	steadily lit
IHA, HLPD, HRLA (See Note 2)	steadily lit (disconnected appearance)	steadily lit
IHA, HLPD, HRLA (See Note 3)	wink (held appearance)	flicker
IHA, HLPD, HRLA (See Note 2)	steadily lit (disconnected appearance)	steadily lit
IHA, HLPD, HRLA (See Note 3)	wink (held appearance)	steadily lit
<p>Note 1: In this situation, the existing functionality of Individual Hold is retained.</p> <p>Note 2: In this situation, a single line MADN member is disconnected from the active call. Another member of the same single line MADN remains active on the call.</p> <p>Note 3: In this situation, a single line MADN member places a call on hold. No other member of the same single line MADN is active on the call.</p>		

Operating parameters

For Individual Hold Enhancement to be activated, Individual Hold Allowed (IHA) and the Lamp (HLP/HLPD) and Release (HRLA/HRLD) Options must be defined in the Customer Data Block. Also, a single line MADN must be defined for the sets.

The Lamp Option applies to Meridian 1 proprietary sets with a call on hold and to analog (500/2500 type) sets which perform the Permanent Hold operation.

If the single line MADN member is an analog (500/2500 type) set, the lamp option only applies when Permanent Hold is initiated from that set.

The Release Option only applies when two or more parties with the same single line MADN are active in a conference call.

The Release Option (HRLA/HRLD) only applies to Meridian 1 proprietary sets with a Hold key or to Meridian 1 proprietary sets with Automatic Hold enabled (CLS = AHA) in Overlay 11.

For Meridian 1 proprietary sets with the Release Option allowed (HRLA), the Conference (A03/A06) and Transfer (TRN) keys are ignored if more than one single line MADN is active on a Conference call.

For analog (500/2500 type) sets, Transfer, Conference, and Permanent Hold work as per the existing operation.

Feature interactions

Automatic Call Distribution

When an Individual Directory Number (IDN) on an Automatic Call Distribution (ACD) set is configured as a single line MADN, both the Lamp and Release Options of the Individual Hold Enhancement feature are applicable to that IDN.

Automatic Hold

When a Meridian 1 proprietary set has Automatic Hold allowed and more than one single line MADN (SCR/SCN/HOT/PVR/PVN) is active on a conference call, if the user presses the hold key or presses the active single line MADN, the following occurs:

- Without the Release Option enabled, the active call on the single line MADN is put on hold. That is, the lamp on the single line MADN flashes as per the existing operation.
- With the Release Option allowed (HRLA), the active call on the single line MADN is disconnected.

If only one single line MADN is active on a conference call, the existing operation is retained.

Multi-Party Operations

Call Join

If a conference is set up using Call Join, Individual Hold Enhancement still functions.

When the Lamp Option is allowed (HLPa) and the user presses the Hold key on an active single line MADN in Call Join operation, the lamps of all other appearances of the same single line MADN are steadily lit.

When the Release Option is allowed (HRLA) and the user presses the Hold key on an active single line MADN in order to enlarge a conference using the Call Join feature, the following occurs:

- The call is disconnected if another member of the same single line MADN is still active on the call.
- The call is placed on hold if the active single line MADN is the only active member of the single line MADN on the call.

Conference (A03/A06, C6A)

With the Release Option allowed (HRLA), the Conference key is ignored on the Meridian 1 proprietary set, when more than one Multiple Appearance Directory Number (MADN) is active in the conference.

Exclusive Hold

The Exclusive Hold feature takes precedence over the Lamp Option of the Individual Hold Enhancement feature. The lamps on all other single line appearances of the MADN are steadily lit while the call is held on one of the single line MADNs. When the Lamp Option is enabled (HLPa), the existing Exclusive Hold functionality is retained.

With the Release Option allowed (HRLA) and more than one single line MADN active in a conference, the call is disconnected when the hold key is pressed.

Permanent Hold on an analog (500/2500 type) set

When an analog (500/2500 type) set puts a call on Permanent Hold, the lamp status remains steadily lit on all other members of the same single line MADN if the customer has the Lamp Option allowed.

With the Release Option configured, if an analog (500/2500 type) set with the same single line MADN initiates Permanent Hold, the call is not dropped even if other appearances are active on this call. This is as per the existing functionality.

Switch Hook Flash

When a single line MADN member uses Switch Hook Flash to place a call on hold, all other appearances of the same single line MADN remain lit as per the existing operation.

When an analog (500/2500 type) set with the same single line MADN initiates hold by Switch Hook Flash, the existing functionality is retained.

Transfer (TRN)

For Meridian 1 proprietary sets with the Release Option allowed (HRLA), the transfer feature is disabled on the single line MADN, while more than one appearance is active in the conference.

For analog (500/2500 type) sets, transfers work as per the existing operation.

Feature packaging

Individual Hold Enhancement requires Deluxe Call Hold (DHLD) package 71.

Feature implementation

LD 15 – Configure Individual Hold Allowed, the Individual Hold Lamp Option and the Individual Hold Release Option in the Customer Data Block.

Prompt	Response	Description
REQ:	CHG	Change existing data.
TYPE:	FTR	Features and options data.
CUST	xx	Customer number.
OPT	IHA	Individual Hold Allowed.
	HLPA	Individual Hold Lamp Option Allowed. HLPD = Individual Hold Lamp Option Denied (default).
	HRLA	Individual Hold Release Option Allowed. HRLD = Individual Hold Release Option Denied (default).
...		

LD 10 – Ensure that Call Transfer Allowed (XFA), Enhanced Hot Line Denied (EHTD), Exclusive Hold Denied (XHD), and Permanent Hold (PHD) are configured.

Prompt	Response	Description
REQ:	CHG	Change existing data.
TYPE:	500	Analog (500/2500 type) set data block.
TN	I s c u c u	Terminal Number. For Option 11C.
...		
CLS	XFA EHTD XHD	Call Transfer Allowed. Enhanced Hot Line Denied. Exclusive Hold Denied.
...		
FTR	PHD	Permanent Hold.
...		

LD 11 – Ensure that Privacy Override Allowed (POA) and Exclusive Hold Denied (XHD) are configured.

Prompt	Response	Description
REQ:	CHG	Change existing data.
TYPE:	xxxx	Telephone type where xxxx is: SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2616, 2317, or 3000.
TN	I s c u c u	Terminal Number. For Option 11C.
...		
CLS	POA XHD	Privacy Override Allowed. Exclusive Hold Denied.

...		
KEY	xx SCR yyyy	<p>Single Call Ringing key, where: xx = key number SCR = Single Call Ringing yyyy = DN</p> <p>KEY may also be defined as HOT (Two-way), PVN, PVR, or SCN.</p>

Feature operation

With the Release Option allowed (HRLA), the user of a single line MADN disconnects from an active call by

- pressing the release key or
- pressing the hold key to disconnect from the active call while another member of the same single line MADN is still active on the call.

However, if a user is the only active member of the single line MADN on the call with the Release Option allowed (HRLA), pressing the hold key puts the call on hold as per the existing operation.

With the Release Option denied (HRLD), the existing functionality is retained. Therefore, the user must press the release key to disconnect from the active call. When the hold key is pressed, the call is not released.

Call Hold, Permanent

Permanent Hold holds an active call on a 2500 telephone without attendant assistance. Calls cannot be originated or received while in the Permanent Hold mode. Incoming calls receive a busy signal if Hunting is not defined for the called telephone.

If the telephone user goes on hook after activating Permanent Hold, the telephone periodically receives a one-second ring burst as a reminder that the call is on hold. This interval is defined at the customer level.

Operating parameters

Permanent Hold is allowed only when a call is active and if the Class of Service allows transfer.

If Busy Verify is attempted on a telephone with a call on Permanent Hold, busy tone is received.

Override cannot be used on a telephone with a call on Permanent Hold.

Permanent Hold cannot be activated during a Conference call.

Two Meridian 1 parties, connected trunk to trunk, can activate Permanent Hold at the same time if they both have the feature defined. After being placed on Permanent Hold, the second party can flash the switchhook and dial #4 to hold the call. After flashing the switchhook, any dialing sequence other than the access code results in overflow tone.

Permanent Hold is not supported on station-to-station calls.

If the telephone activating Permanent Hold is part of a mixed arrangement with another 2500, or Meridian 1 proprietary telephone, the following events occur:

- If a different telephone with the same DN goes off hook, that telephone connects to the held party.
- When Permanent Hold is activated, the DN lamp on the Meridian 1 proprietary telephone remains steadily lit.

If the telephone activating Permanent Hold goes off hook, it is automatically reconnected to the held call.

If the held party disconnects, the hold reminder ring stops.

Feature interactions

Attendant Break-In

The attendant cannot break in to a call on hold.

Audible Reminder of Held Call (ARCH)

If Audible Reminder of Held Call (ARCH) is enabled in LD 15, the Audible Reminder of Held Call (ARCH) timer takes precedence over the Permanent Hold timer.

AC15 Recall: Timed Reminder Recall

Call Hold Permanent is activated when the attendant presses the HOLD key then the Release (RLS) key when extending a call, the call will then be permanently held on the Loop key. If the attendant retrieves the original call on hold by pressing the Loop key, the recall timer is stopped. If the attendant then presses the RLS key, the call is extended and the recall timer is restarted.

Call Park on Unsupervised Trunks

A Disconnect Timer applies to held calls on all trunks on the route. All answered calls in the held state will be disconnected if left in that state for an extended period.

Calling Party Privacy

When a user takes an incoming trunk call with the Privacy Indicator off of hold, no Calling Party Number or Name will be displayed on the set.

Camp-On, Forced Override, Enhanced Override, Priority

Neither held calls nor telephones with calls on hold may be camped on or overridden. Overflow (fast busy) tone is returned to telephones attempting either Forced Camp-on or Priority Override.

China – Attendant Monitor

Monitoring is not affected if anybody involved in the monitor's call activates hold, except for the case of a simple call. For a monitored simple call, activating hold deactivates monitoring. In all cases, activation of music on hold deactivates monitoring.

An attendant monitoring a call cannot put the monitored DN on hold. The attendant pressing the hold key has no effect while monitoring is enabled.

Digital Private Signaling System #1 (DPNSS1) Executive Intrusion

Executive Intrusion is denied if the requested party is put on hold by another station at the same node. This restriction also applies to the unrequested party if the unrequested party is located at the same node as the requested party (standalone) or if the requested party and the unrequested party are linked via DPNSS1.

Predictive Dialing

If an established call is put on hold by the set initiating the Fast Transfer, the switch will not be able to transfer the call. The switch can only transfer a call if it is in the established state.

Privacy

A call placed on Permanent Hold has Privacy removed. Privacy is reinstated when the call is removed from Permanent Hold.

Feature packaging

Special Service for 2500 Sets (SS25) package 18 includes Permanent Hold and has no feature package dependencies.

Feature implementation

LD 15 – Set Permanent Hold reminder ring timer.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB TIM	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- PHDT	1-(30)-63	Permanent Hold reminder ring timing in two-second increments (i.e., 30 = 60 seconds).

LD 10 – Enable/disable Permanent Hold for 2500 telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	XFA	Allow transfer.
FTR	PHD	Enable Permanent Hold.

Feature operation

To place a call on hold, follow these steps:

- 1 While on an active call, flash the switchhook or press the Link key.
- 2 Dial #4, or the Flexible Feature Code (FFC), if enabled.
- 3 Hang up.
The Permanent Hold timer begins.

To retrieve a held call, lift the handset.

Call Park

Call Park (CPRK) places a call in a parked state, similar to hold, where it can be retrieved by any Attendant Console or telephone. A parked call must have an access ID, also known as a Park DN. This is done by parking the call on a System Park DN or on any telephone Directory Number (DN) in the system. A parked call does not occupy a DN, nor is there a lamp to indicate its presence.

Up to 50 System Park DNs are available per customer. There is no limit to the number of DNs that can be used as a Call Park access ID. However, only one call at a time can be parked against any particular telephone or System Park DN.

In addition, the system can offer a default access ID. If System Call Park is defined, the default access ID for the following equipment is the next available System Park DN for the equipment:

- Attendant Consoles
- SL-1 telephones
- M3000 telephones, and
- Meridian Digital Telephones equipped with digit display or display screens.

If System Park DNs are not defined for the customer, the default access ID is the DN of the telephone where the call was parked. An attendant must press the Park key and enter a DN if System Park DNs are not defined.

Park the call, then page the person called. The person called then picks up the call directly or through the attendant. Call Park also enables the telephone that originally receives the call to park it so that another telephone can retrieve it later. The telephone placing the call in Park is free to make or answer other calls.

Calls can be parked from telephones or Attendant Consoles with the Park key/lamp pair or Special Prefix (SPRE) code. Parked calls not retrieved within a specified time (30 to 240 seconds) are recalled to the telephone that parked it. Music for parked calls can be provided if Music (MUS) package 44 is installed.

If a call is parked on a System Park DN, it is recalled to the attendant who parked it if the parking attendant is idle. If the parking attendant is busy, the call is presented to any idle attendant.

If a call is parked on a telephone DN, the recall is placed in the attendant queue and presented to any available attendant. In all cases, parked calls recalled to the attendant appear on the Recall Incoming Call Identification (ICI) key, if defined.

The Park DN of the most recently parked call can be redisplayed on Meridian 1 proprietary telephones equipped with displays, a Park key, and a Display key. This is done by pressing the Display key, then the Park key. The attendant can display the last call parked by pressing the Park key when no loop key is active.

Operating parameters

Call Park is not available for calls on Dial Intercom keys or for calls on analog (500/2500 type) telephones designated as Dial Intercom telephones.

Call Park is not permitted when Privacy Release or Conference is active.

Calls parked from Meridian 1 proprietary telephones and analog (500/2500 type) telephones are recalled to the telephone that parked the call.

When a Multiple Appearance Single Call telephone mix (the same DN appears on Meridian 1 proprietary telephones, and single-line telephones) is parked, other appearances are not automatically bridged to the parked call when going off hook. The call can be retrieved by another Multiple Appearance DN (MADN) telephone only by dialing the Call Park retrieval code and the DN.

Remote access (e.g., Centralized Attendant Service or Direct Inward System Access) for parked parties is not permitted.

Private lines, attendant DNs, Automatic Call Distribution (ACD), and Direct Inward System Access (DISA) DNs are not valid park numbers.

Trunks without disconnect supervision cannot be parked.

Parked calls are not retained during initialization or SYSLOAD.

Parked calls cannot be accessed with the Automatic Call Distribution (ACD) In-calls key. If parked access from Automatic Call Distribution (ACD) positions is required, a DN key must be provided.

A parked call recall cannot be placed on hold by the attendant.

A call transferred to the attendant by the Conference key on a Meridian 1 proprietary telephone cannot be parked by the attendant. A call transferred to the attendant by the Transfer key on a Meridian 1 proprietary telephone can be parked by the attendant.

Feature interactions

AC15 Recall: Transfer from Meridian 1

If Party Z parks the call initiated by Party X (an external caller), then the AC15 Recall: Transfer from Meridian 1 cannot be used to call Party Y. Party Z can neither park, selectively, one member of a split trunk nor park a whole split trunk. This avoids a recall to an attendant on the recall originating node that would not be able to send a recall to toggle from one party to another.

AC15 Recall: Transfer from Norstar

Remote access to call park from AC15 TIE trunks is not permitted. It is not possible to park an AC15 trunk if it has a call on hold. When an AC15 trunk is parked, it is not allowed to initiate a consultation call.

Access Restrictions

A call can be parked on any DN, regardless of its Class of Service. Access to a parked call is governed by the same Class of Service restrictions for normal trunk-to-telephone call processing. Table 32 details the restrictions. These restrictions can be overridden with the Authorization Code.

Table 32
Accessing telephone Class of Service

Parked call type	Accessing telephone Class of Service		
	FRE	FR1	FR2
Telephone	allowed	allowed	allowed
CO/FX/WATS	denied	denied	denied
DID Trunk	denied	denied	denied
TIE trunk	allowed	allowed	denied

Advice of Charge for EuroISDN

When a set parks a call charged with Advice of Charge, the calling party continues to be charged until the call is answered by another set.

Attendant Blocking of Directory Number

It is not possible to park an Attendant Blocking of DN call. If a Call Park call recalls to a blocked DN, the recall will be treated as if the DN is in a ringing state.

Attendant Break-In

The attendant cannot break in to a parked call.

Automatic Call Distribution

Calls parked by Automatic Call Distribution (ACD) agents are recalled to the ACD DN queue and presented to any available agent.

Automatic Redial

When an Automatic Redial (ARDL) call is not accepted by the calling party, the Call Park (PRK) key is ignored.

Attendant Console - M1250/M2250)

The Call Park access code and the Park DN are displayed for parked call recalls.

Attendant Console - QCW4

When a parked call returns to the console, the console shows an attendant display (DLEN in LD 12) of eight digits with only the Special Prefix (SPRE) code and the Park DN when a parked call recalls to the console. (Press the Display Destination key twice for the Park DN.) An attendant display of 16 digits shows the SPRE, the Call Park access code, and the Park DN for parked call recalls.

**Autodial
Speed Call**

Autodial and Speed Calls can be programmed to park calls or access parked calls.

Automatic Timed Reminders

A Call Park recall to an attendant appears on the Recall Incoming Call Indicator.

Busy Lamp Field

A busy lamp field can be equipped to display the status of System Park DN's.

Call Detail Recording (CDR)

Call Detail Recording (CDR) records for Call Park are similar to the start and end records generated when a call is transferred or terminated. When a call is parked, a Call Detail Recording (CDR) start record is generated if one has not already been generated by another feature. A CDR record is not generated when the parked call is accessed. A CDR end record is generated when the trunk call is terminated or when a parked call disconnects.

Call Detail Recording on Redirected Incoming Calls

There is no interaction with Call Detail Recording on Redirected Incoming Calls, as there is no "N" record generated in a Call Park scenario.

Call Forward

A recalled parked call to telephones with Call Forward, Call Forward Busy, or Call Forward No Answer (CFNA) is not forwarded.

Call Page Network Wide

A station set or Attendant Console that parks an external Call Page Network Wide (PAGENET) uncontrolled call is not blocked. However, an external PAGENET controlled call is blocked.

Call Park on Unsupervised Trunks

A 14-second Disconnect Timer applies to parked calls on all trunks on the route. All answered calls in the parked state will be disconnected if left in that state for an extended period.

Call Party Name Display

Upon valid operation of the Park key, or dial-access if used, Call Party Name Display (CPND) shows the SPRE code and the Park Access ID. Because the Park Access Code is displayed, no CPND name is displayed. The only time that the digit display shows the actual DN of the parked party is when the parked party has been retrieved, put on hold, and then retrieved from hold.

Call Pickup

An analog (500/2500 type) telephone user on a call can pick up a call by parking the existing call, then activating the Call Pickup feature.

Call Pickup Network Wide

The Call Pickup Network Wide feature cannot be used to pick up parked calls. A recall of a parked call can be picked up, in which case the call is unparked and answered by the requesting party.

Call Transfer Conference

A parked call can be accessed after Call Transfer or Conference is activated.

Call Waiting

A recall of a parked call is not presented in the Call Waiting mode. If an internal telephone is in the parked state, Call Waiting to that telephone is not provided.

Centralized Attendant Service

Call Park is limited to the local Meridian 1 for systems equipped with Centralized Attendant Service. Call Park cannot be accessed from release-link trunks.

China – Attendant Monitor

If a DN being monitored becomes parked by another party, the Attendant Monitor feature is deactivated.

Conference

A parked call can be accessed after Conference is activated

Console Presentation Group Level Services

If the attendant who parked a call on the System Park DN is busy when that call is recalled and the parking attendant does not belong to the same Console Presentation Group (CPG) specified for the tenant of the calling station, the parked call is presented to an idle attendant in the same CPG specified for the calling station. If no attendant in that CPG is available to receive the recall, the parked call is queued until one of the attendants in the CPG becomes idle.

Digital Private Signaling System #1 (DPNSS1) Executive Intrusion

Attempts to intrude into a parked call receive Executive Intrusion Denied treatment.

Display of Calling Party Denied

When the Call Park timer expires on a parked call, a set's display reflects the Directory Number the call is parked against. The display does not include the name and DN of the calling party. When a parked call is retrieved by another set, display information is based on the DPD Class of Service of the individual sets.

Do Not Disturb

Calls can be parked on telephone DNs that are in the Do Not Disturb mode (DND). Telephones in the DND mode can park a call or access a parked call. Recall of a parked call to a DND telephone is recalled to the attendant.

Generic XFCOT Software Support

Call Park feature allows an attendant or telephone user to place a call in parked state (connected to a parked DN) where it can be retrieved by any attendant console or station set. If the call is not retrieved after a customer-defined time, the call is recalled to the telephone user who parked it.

Call Park is allowed on disconnect-supervised or unsupervised IPE loopstart Central Office trunks. If a caller on an unsupervised loopstart trunk disconnects while the call is in parked state is detected when the parked call is recalled or answered.

Caller disconnection during park state is detected by a disconnect supervised loopstart trunk on an XFCOT card. The disconnected caller is then dropped from the parked DN.

Group Call

Call Park cannot be applied on a Group Call.

Held Call Clearing

A call put on hold during a Call Park is not cleared by an on-hook action on that set.

Hot Line

Analog (500/2500 type) Hot Line telephones with EHTA and XFA Class of Service are allowed to park calls using the established Call Park procedures. Once a call is parked on an analog (500/2500 type) Hot Line telephone and the telephone is placed on hook, it cannot be unparked. Parked calls will recall to the parking telephone after the Call Park timeout. Two-way Meridian 1 proprietary telephone Hot Line stations that are equipped with a Call Park key/lamp pair are allowed to park calls in the normal fashion. As with analog (500/2500 type) telephones, a call parked from a Hot Line key cannot be picked up using the same key.

In-Band Automatic Number Identification

If an agent parks an In-Band ANI call and it times out and recalls the agent, the ANI number is not displayed.

Intercept Computer Dial from Directory - Pre-dial Operation

An attendant can park a call in the following manner:

- Press the Call Park key on the Attendant Console.
- Dial a DN from the Intercept Computer.

Terminate Call Park operation by pressing the Release key.

Make Set Busy

Recall of a parked call to a telephone in the Make Set Busy mode is intercepted by the attendant.

Multi-Tenant Service

If the attendant who parked a call on the System Park DN is busy when that call is recalled and the parking attendant does not belong to the same Console Presentation Group (CPG) specified for the tenant of the calling station, the parked call is presented to an idle attendant in the same CPG specified for the calling station. If no attendant in that CPG is available to receive the recall, the parked call is queued until one of the attendants in the CPG becomes idle.

Music

When a call is parked, music is not heard. When a trunk is parked, music plays if music is enabled for the route.

Network Intercom**Private Line Service**

Hot Type I and Private Line Service calls cannot be parked.

Periodic Pulse Metering

When a metered call is parked from one station to another, the controlling station is charged until the call is answered.

Privacy Override

Calls in a Privacy Override conference state cannot be parked.

Privacy Release

When a call from a Meridian 1 proprietary telephone is parked, that telephone cannot activate Privacy Release. For example, Party A calls Party B. Party B parks the call. Party A cannot activate Privacy Release.

Recall After Parking

This enhancement to Call Park causes a parked call to be recalled to the attendant or night DN if the attendant is in Night Service, rather than to the parking telephone, if not answered within a customer-defined period of time (two-minute maximum). The call may be external or internal.

The recall to the attendant appears on the Recall ICI key. If the attendant is in Night Service, the recall occurs to the night DN. If the night DN is busy, the call is queued if it is an external call.

Traffic measurements

TFC007 is included for Call Park. It provides traffic measurements for the following:

- system park usage
- system park overflow
- telephone park usage
- park access
- park recall, and
- average waiting time.

Feature packaging

Call Park (CPRK) is package 33 and has no feature package dependencies.

Feature implementation

LD 15 – Enable or disable Call Park.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB FTR	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- OPT	(CPD) CPA	(Disable) enable Call Park.

LD 50 – Add/change or print Call Park. This overlay must be defined for Call Park operation.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CPK	Call Park data block.
CUST	xx	Customer number.
CPTM	30-(45)-240	Parked call recall time in seconds (the default is 45 seconds).
SPDN	(0)-50 xxxx	Number of contiguous System Park DNs and the first System Park DN. The default 0 (zero) disables System Park DN capability, but allows Telephone Park DNs. If the DN Expansion package is equipped, the System Park DN can have up to seven digits.
MURT	0-511 0-127	Music route number for parked calls. For Option 11C.

LD 10 – Allow or deny access to Call Park for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(XFD) XFA	(Deny) allow access to Call Park.

LD 11 – Add or change a Call Park key on Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
KEY	xx PRK	Add a Call Park key (key number must be 17 for the M2317 and 31 for the M3000).

LD 12 – Add or change a Call Park key on Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	ATT 1250 2250	Attendant Console type.
TN	l s c u c u	Terminal Number. For Option 11C.
KEY	xx PRK	Add a Call Park key (key number can be 00-19 on the M2250).

Feature operation

To park a call with the Park key, follow these steps:

- Press **Park** twice.

If there is a System Park extension, the call is parked on it. Otherwise, it is parked on your extension.

To park a call on an extension other than the System Park extension, follow these steps:

- 1 Press **Park**.
- 2 Enter the extension number.
- 3 Press **Park** again.

To park a call using SPRE codes, follow these steps: -

- 1 Press **Transfer** or **Conference**.
- 2 Dial SPRE 71.

You can dial an extension number to park the call, or you can use the System Park extension, chosen automatically. It shows on your telephone's display, if equipped.

- 3 Press **Transfer** or **Conference** again.

To retrieve a parked call, follow these steps:

- 1 Select a free extension.
- 2 Dial SPRE 72.
- 3 Dial the extension where the call is parked.

Call Park on Unsupervised Trunks

This enhancement to the Call Park feature allows Central Office (CO), FEX, and Wide Area Telephone Service (WATS) trunks, without disconnect supervision, to be call-parked. All other trunk types without disconnect supervision cannot be parked. The Disconnect Timer (DCTI) is used to prevent phantom calls from ringing beyond the set time. Answered calls in the held, parked, camped-on, or ringing state are disconnected when the DCTI times-out.

This enhancement also allows Direct Inward System Access (DISA) on CO, FEX, and WATS trunks without disconnect supervision. DISA on unsupervised trunks does not intercept to the attendant, but is subject to Timed Forced Disconnect Timer, which prevents the CO trunk from being seized if the far end hangs up.

Operating parameters

The Disconnect Timer applies not only to Call Park but also to all trunks on the route. All answered calls in the held, parked, ringing, or Camp-On states will be disconnected if left in that state for an extended period (this even applies to calls in a call waiting queue type).

Feature interactions

Attendant Calls Waiting Indication

If all the attendants are busy and a Call Park Recall occurs, the recall is placed in the calls waiting queue. If the recalled station is busy when the recall occurs, the Disconnect Timer (DCTI) temporarily suspends timing until the recall is presented. After the recall is presented, the Disconnect Timer continues timing for the remainder of the period.

Automatic Call Distribution (ACD)

If all the ACD agents are busy and a Call Park Recall occurs, the recall is placed in the ACD DN queue.

Call Hold, Deluxe

Call Hold, Permanent

A Disconnect Timer applies to held calls on all trunks on the route. All answered calls in the held state will be disconnected if left in that state for an extended period.

Call Park

A 14-second Disconnect Timer applies to parked calls on all trunks on the route. All answered calls in the parked state will be disconnected if left in that state for an extended period.

Camp-On

A Disconnect Timer applies to camped-on calls on all trunks on the route. All answered calls in the camped-on state will be disconnected if left in that state for an extended period.

Feature packaging

Call Park on Unsupervised Trunks is included in Direct Inward System Access (DISA) package 22.

Feature implementation

LD 16 – Respond to the DCTI prompt as follows:

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	RDB	Route Data Block.
...		
DCTI	(0)-511	Time, in seconds, that an extension is allowed to ring or be on hold or Call Park before the trunk is disconnected. 0, the default, or <CR> means that the condition goes on indefinitely. Respond with a value equal to the number of seconds a set is to ring after recall, plus the value of the Call Park Recall Timer (which is defined in LD 50 in response to the CPTM prompt). The value stored, which will be the closest lower multiple of four, is echoed back upon entry.

Feature operation

Feature operation for Call Park on Unsupervised Trunks is the same as that for Call Park.

Call Party Name Display

Call Party Name Display (CPND) identifies the calling or called number in addition to the DN. The identifier (for example, the name) associated with a DN on telephones with an alphanumeric display is defined in LD 95.

Whenever the calling party's DN displays on the terminating telephone, the calling party's name also appears. Likewise, on an internal call, the called party's name is appended to the displayed DN on the originator's telephone, as soon as a valid DN is completely dialed.

X11 Release 13 enhancements display the DN and name of the originally dialed party for redirected calls. A Class of Service, DNDA/DNDD (Dialed Name Display Allowed or Denied), is assigned on a per-telephone basis. The terminating telephone must have DNDA to display the name of the originally dialed party.

The M1250/M2250 Attendant Console can extend a call to a DN requested by a calling party. The CPND enhancement enables the M1250 Attendant Console to display the incoming call information on one line and the outgoing call information on the next line when extending an incoming call.

X11 Release 16 Multi-Language CPND displays the party's name in Roman/English or Katakana (Japanese alphabet) characters on Meridian modular telephones. The names are stored in the database under each character set and the language is specified with the Meridian modular program keys.

Two languages can be stored in the database for any given name. For this enhancement to work fully, both telephones involved must have the same name in the same languages. (E.g., John Smith calls Anne Jones. Both John and Anne must have Katakana in their database for the name to appear in Katakana characters. If John has Katakana enabled, but Anne does not, Anne sees the English version.)

Entering Katakana, or any other non-ASCII Roman characters, requires a system terminal that supports eight-bit, no-parity Input/Output.

The maintenance terminal must support ISO 8859-1 Latin 1 for the Roman character mode.

Call Party Name Display assignment

A CPND name string can be assigned to internal DNs associated with any of the following:

- analog (500/2500 type) telephones
- Single-call/multiple-call SL-1 telephones
- Trunk access codes
- Attendant DNs
- Automatic Call Distribution (ACD) DNs
- Dial Intercom Group member numbers

As a customer option for multiple appearance DNs (MADNs), the assigned CPND name can be linked with its member telephone's designator (DES field in the TN block) to further identify the party of a shared DN.

Call Party Name Display composition

A CPND name is the name used to identify a DN, entered in ASCII alphanumeric character format. The maximum CPND length is the smaller of two values: the maximum length configured in LD 95 or 27 characters, including spaces and special characters.

The ASCII characters supported are A-Z, 0-9, space, Hex 20-127, and the following special characters:

" () - # ,

Prior to X11 Release 19, the CPND name was usually entered as first name, a space, and last name (such as Mary Smith). Beginning with X11 Release 19, the NAME prompt in LDs 10, 11, and 95 accepts first name, a comma as a separator, and last name (such as Mary,Smith). X11 Release 19 supports CPND names in the older format, treating the entire name string as the first name. See [Table 33](#) for examples.

Table 33
Response formats for CPND NAME prompt

Entered Data	Displayed Result
Sue Smith <CR>	Sue Smith
Sue,Smith <CR>	Sue Smith
Sue <CR> Sue, <CR>	Sue (Trailing comma is ignored.)
Sue,Smith, Dept. 410 <CR>	Sue Smith, Dept. 410
Sue Smith, Joe Brown <CR>	Sue Smith, Joe Brown

The default in X11 Release 19 is to accept the names as entered, replacing the comma with a space. Hence, a value entered as Mary,Smith displays as Mary Smith.

Note: Do not enter leading spaces. LD 95 ignores them. When CPND information is printed (using LD 10/11 or LD 20), the printout reflects what is in the database, not what appears on the telephone display.

In addition to the caller's name, a reason field can be provided to indicate the cause of a redirection. This is a customer option and the actual mnemonics are service changeable. The following call redirections have a reason displayed:

- Call Forward All Calls
- Call Forward No Answer
- Hunting/Call Forward Busy
- Call Transfer with Network Call Redirection

- Attendant Alternative Answering
- Call Pickup

Display Devices and Capabilities

The M3000 Touchphone has a display line of 35 characters, 27 available for displaying DN-related information.

The M2317 has a display line of 40 characters, 33 available for displaying DN-related information.

If there are more characters than the telephone's display allows, the system deletes letters to make the name fit.

The M1250 and M2250 Attendant Consoles are equipped with four lines of LCD alphanumeric display. Each line has 40 characters, and lines 2 and 3 are used to display DN-related information. If the number of characters displayed is more than 40, an arrow appears in the upper right corner of the display. The arrow alerts the user that more information can be retrieved using the scrolling keys. For complete information, refer to the *M1250/M2250 Attendant Console User Guide*.

The call type, originating or terminating telephone, and the Class of Service all affect the display and CPND information. Three Classes of Service are associated with the display function. CPND conforms to whichever Class of Service is configured for the telephone.

- Automatic Digit Display (ADD)
- Digit Display Selection (DDS)
- Touchphone Digit Display (TDD)

No user interaction is required to display information on the call. On the M2317 telephone, however, the user can press the SAVE # softkey to save the name and number of the calling party. This applies to all outgoing and answered incoming calls.

Operating parameters

CPND is not displayed if a live call is not involved (e.g., while programming a Speed Call key).

Attendant Administration does not support the entry of CPND class marks for digital telephones.

CPND is not displayed on the calling telephone while making an outgoing trunk call.

CPND is not supported on data calls.

CPND is not available on QCW Attendant Consoles.

In X11 Release 13 and later, CPND applies only to redirected calls on M2008, M2016, M2216, M2616, M3000, and M2317 telephones.

For M2008, M2016, M2216, M2616, M3000, and M2317 telephones, CPND is provided on a per-telephone basis, depending on the Class of Service.

DNDA (Dialed Name Display Allowed) and NDD (No Digit Display) Class of Service are mutually exclusive.

Multi-Language CPND operates on Meridian modular telephones only.

An individual DN can have Roman/English, or Katakana, or both programmed in the database if MLIO is equipped.

If the call destination is a trunk or a telephone type other than Meridian modular, the name is translated into the ASCII equivalent.

Multi-Language CPND applies to DNs on local switches only. CPND for Integrated Services Digital Network (ISDN) calls is displayed in English only.

The CPND feature uses JIS X 0201-1976, the RCode for Information Interchanges, also known as JIS-Roman, which specifies the upper and lower case letters, numbers, punctuation and symbols, and Katakana.

Feature interactions

AC15 Recall: Timed Reminder Recall

When the AC15 recall is presented to an attendant or a set with a display, the source and destination names are shown beside the DN's or the ACODs.

ACD Routing by DNIS

With X11 Release 17 and later, when an incoming trunk call from a route with Routing by DNIS is presented to a display telephone, the identification digits follow the regular trunk access code and member number. It precedes the CPND name for the DNIS DN.

Attendant Recall

Attendant Recall using the Attendant Recall key or a switchhook flash results in both source and destination information being displayed. No redirection reason is displayed, however. In this type of recall, the party that pressed the Attendant Recall key or switchhook is the destination party.

Attendant Recall using Call Transfer or Conference displays the recalling party's DN and CPND information on the attendant's source line. No redirection reason is displayed. If the recall is done with the Transfer key the third party's DN and CPND information are displayed on the source line when the transfer is complete.

Attendant Recall with Splitting

For the M1250 and M2250 Attendant Console, M2317, M3000 digital sets, and Meridian Modular sets the appropriate DN and calling party's name will be correctly shown on the digit display when the attendant presses either the Exclude Source or the Exclude Destination key.

Autodial Speed Call

No name information displays during the programming of Autodial and Speed Call numbers.

Automatic Call Distribution (ACD) Dialed Number Identification Services (DNIS)

If an incoming trunk call from a route with DNIS is presented to a display telephone, the identification digits follow the regular trunk access code and member number. It precedes the CPND name for the DNIS incoming trunk group.

Automatic Wake Up

All display information associated with Automatic Wake Up (AWU) programming is directed to line three of the display. Names are appended to DN's appearing on line three if they are different from those on line two, or if no DN appears on line two. There is no DN information on line two if the attendant has initiated the AWU process while not on an active call. No DES information is appended, since AWU operates on a DN basis.

Call Hold, Deluxe

When a call is put on hold, the holding telephone's display clears. The held telephone's display does not change. When the telephone reestablishes the call, the display returns the original DN and name.

Call Park

Upon valid operation of the Park key, or dial-access if used, CPND shows the SPRE code and the Park Access ID. Because the Park Access Code is displayed, no CPND name is displayed. The only time that the digit display shows the actual DN of the parked party is when the parked party has been retrieved, put on hold, and then retrieved from hold.

Call Pickup

For Call Pickup, the X11 Release 13 enhancement to CPND applies when the call is answered.

Call Pickup Network Wide

Network Call Party Name Display information will be exchanged during Call Pickup Network Wide calls if the sets involved in the call would normally exchange the information for calls over the routes that have been used for the original call and the call pickup. Conversely, if Network Called Party Name Display would not operate for a normal call from the originating party to the terminating party, the service will not be supported when Call Pickup Network Wide is involved.

Call Transfer

When the Transfer key is pressed during an active call, the display clears. The call is in a held state. The DN and name of the transferred telephone appear on the display when the DN is dialed. When the transfer is complete, the transferring telephone's display clears because the telephone is now disconnected. The transferred telephone's display changes to show the name of the newly connected party.

Calling Party Privacy

In current operations, if the International Supplementary Features (SUPP) package 131 is not equipped in the system, an incoming ISDN call with the Call Party Name Display (CPND) Indicator field set to "Presentation Denied" still displays the Calling Party Name. If package 131 is equipped in the system, the current operations will inhibit the Calling Party Name for an incoming ISDN call with the CPND Indicator field set to "Presentation Denied".

The CPP feature will inhibit the display of the Calling Party Name for an incoming ISDN call with the CPND Indicator field set to "Presentation Denied" if package 131 is not equipped.

Centralized Attendant Service (CAS)

When an attendant in the CAS mode extends a call to a remote station, the display shows only the source line.

Conference

When pressed during an active call, or to set up a conference, the Conference, Connect, or Join Parties key clears the display. The telephones involved in the conference have blank displays. If the conference returns to a two-way only call, each telephone displays the DN and name of the other telephone.

Dial Intercom

The display on telephones connected by Dial Intercom shows the group member's DIG number plus CPND information.

Dialed Number Identification Service

If an incoming trunk call from a route with Dialed Number Identification Service (DNIS) is presented to a display telephone, the identification digits follow the regular trunk access code and member number. It precedes the CPND name for the DNIS incoming trunk group.

Digital Private Network Signaling System (DPNSS1)/Digital Access Signaling System (DASS2) Uniform Dialing Plan (UDP) Interworking

The Call Party Name Display feature is supported in a DPNSS1 UDP network. Names can be associated with the access codes of the DPNSS1 UDP routes defined in LD 95.

Display Key

When pressed during a call, the Display key clears the display until pressed again. The original display reappears. When the telephone is inactive and the DSP key is pressed, followed by a function key like Autodial, no CPND information is displayed.

End-to-End Signaling

When entered after a call is answered, EES digits are displayed immediately following the CPND name of the connected party. Leading DN digits and name characters may be shifted out of the display window.

ISDN

On incoming ISDN calls, the Calling Line ID number can be displayed instead of a DN on the source party line. With X11 Release 14, CPND applies to telephones configured for ISDN when redirection is supported, and only when all parties involved are located on the same switch. X11 Release 16 allows calls to redirect across a Meridian 1 network with Network Call Redirection. The CPND is maintained through the redirection.

ISDN QSIG Name Display

Call Party Name Display and Calling Party Name Display Denied interact with ISDN QSIG Name Display, depending on the Name Display configuration in LD 16 for BRI or LD 17 for PRI. When a QSIG network is interacting with an MCDN network providing network capability ND3, both the MCDN and QSIG Name Display feature function on the same level.

Listed Directory Number

CPND is not supported for LDNs. If the LDN is an incoming trunk route, the CPND assigned to the route access code is displayed.

Manual Signaling (Buzz)

If the Signal key is pressed to buzz another telephone, no digit or name display appears on the telephone.

Meridian Hospitality Voice Services

The maximum length of a CPND name sent from the PMSI/Background Terminal (BGD) is 27 characters. When the full 27-character length is used, part of the CPND name may scroll off the screen. To avoid this problem, the PMSI/Background Terminal (BGD) software has been updated to strip from the screen all trailing blanks from the CPND name.

Meridian Mail Voice Mailbox Administration

There is significant interaction between the Meridian 1 Call Party Name Display (CPND) database and the Meridian Mail VMB database. The sections entitled “Common data elements” on page 1798 and “Name processing considerations” on page 1799 describe these interactions.

Meridian 911

The Call Party Name Display feature can be used to configure and display the incoming 911 route name.

Multiple Appearance Directory Number

On ST and 21 systems, with X11 Release 17 and lower, the number of DN appearances restricts the number of letters/digits allowed for CPND. These engineering guidelines must be followed:

- 11 or fewer appearances allows 27 digits/letters in the name
- 12 appearances allows 23 digits/letters in the name
- 13 appearances allows 20 digits/letters in the name
- 14 appearances allows 16 digits/letters in the name
- 15 appearances allows 14 digits/letters in the name
- 16 appearances allows 11 digits/letters in the name
- 17 appearances allows 9 digits/letters in the name, and
- 18 appearances allows 8 digits/letters in the name.

M2312 Digit Display

The calling party number can be displayed only when the call is active.

Network Intercom

Hot Type I calls display names the same as a normal call.

Hot Type I calls that become a normal call indicate on the originating station's display that the call is no longer a Hot Line call.

Override

When Overriding an established call, the displays of the other telephones show the DN and name of the overriding party.

Slow Answer Recall

Slow Answer Recall results in displays showing source and destination information. If a redirection occurs, the reason is displayed.

Telephones - M3000 Touchphone

Local Directory Translation CPND and the M3000 Touchphone DN-to-name translation are mutually exclusive. If CPND name display is allowed (CLS = CNDA), the DN-to-name translation must be disallowed.

Voice Call

The telephone originating a Voice Call displays the called DN's CPND. The called telephone shows the caller's DN and name on its display.

Feature packaging

Call Party Name Display (CPND) package 95 requires:

- Digit Display (DDSP) package 19
- M2000 Digital Sets (DSET) package 88
- M3000 Digital Sets (TSET) package 89 or
- M2317 Digital Sets (DLT2) package 91
- Aries Digital Sets (ARIE) package 170

Multi-Language CPND requires Multi-Language TTY Input/Output (MLIO) package 211.

If the designator field is to be used for multiple-appearance DNs, CPND requires:

- Office Data Administration System (ODAS) package 20

For Hotel/Motel applications configuring CPND, CPND requires:

- Background Terminal Facility (BGD) package 99
- Multi-Language TTY Input/Output (MLIO) package 211 to support eight-bit, no-parity system terminals

Feature implementation

Before name strings can be assigned to various telephones, the CPND data block must be created in LD 95. The number and size of CPND name strings is limited by available space in the Protected Data Store, so it is recommended that you initially use a small number for the maximum character length.

Enable CPND and add names to the CPND data block

LD 95 – Create the CPND data block.

Prompt	Response	Description
REQ	NEW	Create CPND database (or open existing database).
TYPE	CPND	CPND data block.
CUST	xx	Customer number.
CNFG	<CR>	Standalone memory.
MXLN	5-(17)-27	Maximum number of characters allowed in each name string. Once defined, this value can be changed only by removing the CPND data block and recreating it.
STAL	(NO) YES	Static allocation of name storage. Must be YES if Background Terminal is equipped, or whenever name strings change frequently.

- DFLN	5-MXLN	Average default character string length. Suggested default is 13 or the maximum length given to MXLN, whichever is less. Prompted if STAL = YES.
DES	(NO) YES	(Do not) allow designator for MADNs.
RESN	(NO) YES	(Do not) allow display of reason for redirecting calls.
- CFWD	aaaa (F)	Mnemonic for Call Forward All Calls display.
- CFNA	aaaa (N)	Mnemonic for Call Forward No Answer display.
- HUNT	aaaa (B)	Mnemonic for Hunt/Call Forward Busy display.
- PKUP	aaaa (P)	Mnemonic for Call Pickup display.
- XFER	xxxx (T)	Mnemonic for Call Transfer display for NCRD.
- AAA	aaaa (A)	Mnemonic for Attendant Alternative Answering.

LD 95 – Add names to the CPND data block.

Prompt	Response	Description
REQ	NEW	Open CPND data block to add new entries.
TYPE	NAME	Create a new name string.
LANG	(ROM) KAT <CR>	Store the name in Roman or Katakana. <CR> stores the name in English.
CUST	xx	Customer number.
DIG	0-2045 0-99	Dial Intercom Group number and member number. Each time a name string is assigned to a Dial Intercom Group member, the DIG prompt repeats, until a carriage return is entered to go to the DN prompt.
	<CR>	Bypass Dial Intercom Group and go to the DN prompt to assign names on a DN basis.
- NAME	aaaa bbbb	CPND name string; maximum of 27 characters.
- XPLN	xx	Expected Length. Range must be between the Input Name length and the MXLN, or it defaults to DFLN.
	<CR>	Set XPLN to average default character string length (DFLN) or the actual length (NAME), whichever is longer.
DN	xxx...x	DN to which name string is linked.
- NAME	aaaa bbbb	CPND name string; maximum of 27 characters.

- XPLN	xx	Expected Length. Range must be between the Input Name length and the MXLN, or it defaults to DFLN.
	<CR>	Set XPLN to average default character string length (DFLN) or the actual length (NAME), whichever is longer.
DCNO	xxx	IDC conversion table number (0-254).
IDC	nnn	Existing complete or partial IDC number. Prompted only when DCNO is valid.
NAME	aaaa bbbb	CPND name string; maximum of 27 characters.

LD 10 – Allow names to be assigned to analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
FTR	CPND	Allow CPND name assignment on this telephone.

LD 11 – Allow names to display on M2008, M2016, M2216, M2616, M3000, and M2317.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = 2008, 2016, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(CNDD) CNDA (DNDD) DNDA	(Deny) allow display of CPND entries. (Deny) allow display of CPND originally dialed entries.

LD 12 – Allow names to display on Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	1250 2250 ATT	Console type.
TN	l s c u c u	Terminal Number. For Option 11C.
CPND	(CNDD) CNDA	(Deny) allow CPND name assignment.
DNDI	(DNDD) DNDA	(Deny) allow display of originally dialed CPND entries.

Change or remove names in the CPND data block**LD 95 – Open the CPND data block to change or remove entries.**

Prompt	Response	Description
REQ	CHG OUT	Change, or remove an existing entry.
TYPE	NAME	Change, or remove an existing CPND name string.
CUST	xx	Customer number.
LANG	ROM KAT ALL	Change or remove the name in Roman or Katakana. ALL is used to remove all names stored for the DIG.
DIG	0-2045 0-99 ALL <CR>	Dial Intercom Group number and member number. Each time a name string is assigned to or removed from a Dial Intercom Group member, the DIG prompt repeats, until a carriage return is entered to go to the DN prompt. ALL removes all entries for that DIG. <CR> bypasses DIG and goes to the DN.
- NAME	aaaa bbbb <CR>	CPND name string for this DIG; maximum of 27 characters. Leave this entry unchanged.
DN	xxx...x ALL <CR>	DN of name string being changed or removed. Remove all DN-defined entries. Return to REQ prompt.
- NAME	aaaa bbbb	CPND name string; maximum of 27 characters.

DCNO	xxx	IDC conversion table number (0-254).
- IDC	nnn	Existing complete or partial IDC number. Prompted only when DCNO is valid.
NAME	aaaa bbbb	CPND name string; maximum of 27 characters.

Print entries from the CPND data block

LD 95 – Print information associated with entries in the CPND data block.

Prompt	Response	Description
REQ	PRT	Print entries in the CPND data block.
TYPE	NAME	CPND name strings.
CUST	xx	Customer number.
LANG	ROM KAT	Print names in Roman or Katakana.
PAGE	(NO) YES	Page headers and page numbers for multiple DN and DIGs.
DIG	ALL	Print information on all entries defined by Dial Intercom Groups.
	0-2045 0-99	Dial Intercom Group and member number. The DIG prompt repeats until a carriage return is entered.
	<CR>	Bypass Dial Intercom Group and go to the DN prompt to print information on a DN basis.
DN	ALL	Print information on all DN entries.
	xxxx	DN to print information from. DN prompt repeats until a carriage return is entered.
	<CR>	Return to REQ prompt.
DCNO	xxx	IDC conversion table number (0-254).
- IDC	nnn	Existing complete or partial IDC number. Prompted only when DCNO is valid.
	ALL	All names defined are printed.

SHRT	(NO) YES	Short form. Prints one IDC per single line. Prints several IDCs on single line.
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Add or change CPND name entry for a telephone

LD 10/11 – Add or change CPND name.

Prompt	Response	Description
REQ	NEW CHG	Add or change CPND name information.
TYPE	aaaa	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
CUST	xx	Customer number.
CPND	NEW CHG OUT	Add, change, or remove the CPND information.
CPND_LANG	(ROM) KAT	Use Roman or Katakana characters.
NAME	aaaa bbbb	CPND name; maximum of 27 characters.
XPLN	xx	Expected name length.
DISPLAY_FMT	(FIRST) LAST	First name; Last name (John Doe). Last name; First name (Doe John).

Feature operation

No specific operating procedures are required to use this feature.

Call Pickup

Call Pickup allows telephones to be arranged in groups consisting of any combination of analog (500/2500 type) telephones, and Meridian 1 proprietary telephones.

Telephones can be specified as Call Pickup allowed or Call Pickup denied. If the telephone's Class of Service is Call Pickup allowed, the user can answer calls made to any telephone within the Call Pickup group. If the telephone's Class of Service is Call Pickup denied, but the telephone is assigned to a Call Pickup group, the user cannot answer calls directed to other telephones. Calls to the denied telephone, however, can be answered by other members of the group.

Meridian 1 proprietary telephones can dial-access this feature, or be equipped with a Call Pickup key. An associated lamp is not required.

Central Office (CO) Trunk Priority, X11 Release 13 and later releases, provides CO trunk calls priority over other calls within the distinctive ringing and normal ringing queues. If the CO Trunk Priority is implemented, calls are answered in the following order:

- Distinctive Ringing Queue CO call (Priority 1)
- Distinctive Ringing Queue non-CO call (Priority 3)
- Normal Ringing Queue CO call (Priority 2)
- Normal Ringing Queue non-CO call (Priority 4)

Operating parameters

Prior to X11 Release 13, Call Pickup groups were limited to 255 per customer. With X11 Release 13 and later releases, the number of Call Pickup groups is increased to 4095. The number of members assigned to each group is unlimited, depending on available system memory.

Feature interactions

Advice of Charge for EuroISDN

Calls charged with Advice of Charge that are either transferred, extended or redirected to another set via Call Pickup are charged against the last set that answers the call and the controlling set releases.

Attendant Alternative Answering

The Attendant Alternative Answering (AAA) DN can be assigned to a Call Pickup group to allow members of the same group to answer the call.

Attendant Overflow Position

An Attendant Overflow Position Call presented to the AOPDN can be picked up by any station belonging to the same Call Pickup Group.

Automatic Call Distribution

Automatic Call Distribution (ACD) DNs are not supported by Call Pickup.

Call Park

An analog (500/2500 type) telephone user on a call can pick up a call by parking the existing call, then activating the Call Pickup feature.

Call Party Name Display

For Call Pickup, the X11 Release 13 enhancement to Call Party Name Display applies when the call is answered.

Calling Party Privacy

If an incoming trunk call with the Privacy Indicator is picked up locally, the display of the calling Party Number and Name are not displayed on the terminating set.

Call Detail Recording on Redirected Incoming Calls

When an incoming call is picked up, the answering set is identified in the Terminating ID. This operation remains the same.

Call Pickup, Directed

Call Pickup can be assigned to a telephone independent of Directed Call Pickup (DCP).

Conference

This feature cannot be activated during a conference call. Meridian 1 proprietary telephones can activate Call Pickup if an idle Directory Number (DN) key is available. The conference call must be put on hold before pressing the idle DN key to pick up the call.

Dial Intercom

Call Pickup may be used by Meridian 1 proprietary telephones if the telephones are all in the same Dial Intercom Group (DIG) and Call Pickup Group and the ring option is specified for the DIG

Digital Private Network Signaling System (DPNSS1)/Digital Access Signaling System (DASS2) Uniform Dialing Plan (UDP) Interworking

Call Pickup is supported in a DPNSS1 UDP network.

Display of Calling Party Denied

When a call is picked up from another set, the terminating set's display is in accordance with the Class of Service of the dialed and calling sets. The calling party's display includes the dialed DN, the terminating DN and the name of the terminated set. However, if the terminating set has Digit Display Denied (DDGD), then both the dialed and terminating sets' DNs are blocked from the calling party's display. The same occurs when Digit Display Allowed (DDGA) is configured on the terminating set. Both the dialed and terminating sets' DNs are displayed on the calling party's set, regardless of the Class of Service of the dialed set.

Flexible Feature Codes

Flexible Feature Codes are not supported on a Meridian 1 proprietary telephone during an attempt to pick up a Dial Intercom ringing call.

Group Call

This feature can be used to answer a Group Call if it is activated by a valid telephone in the same Call Pickup group, or by using Directory Number (DN) Pickup or Group Pickup.

Hot Line

Telephones with two-way Hot Line keys, and analog (500/2500 type) Hot Line telephones, can be assigned to pickup groups. Incoming Hot Line calls may be picked up by group members. To prevent someone from picking up a Hot Line call, do not put the Hot Line user into a Call Pickup group.

ISDN QSIG Name Display

An incoming QSIG call with name display presentation allowed has name information displayed on the set that picks up the call. If the incoming QSIG call has presentation denied, the calling party's name is not displayed on the set picking up the incoming call.

Multi-Party Operations

Analog (500/2500 type) telephones with PUA and TSA Class of Service can pick up a call only if they are not involved in another call. After picking up a call, the user can form a Consultation connection and dial Programmable Control Digits as normal.

Network Intercom

Hot Type I calls cannot be picked up. An attempt to pick up a Hot Type I call results in an overflow tone.

Periodic Pulse Metering

Metered calls transferred or extended from one station and answered at another station using the Call Pickup feature are charged against the station where the call is picked up as the controlling party disconnects.

Feature packaging

Call Pickup is included in base X11 system software.

Feature implementation

LD 15 – Implement CO Trunk Priority in the Customer Data Block.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB FTR	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- OPT	(COX) COP	CO Trunk Priority for the Call Pickup feature. COX is no Priority.

LD 10 – Define Call Pickup group and Class of Service for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
RNPG	0-4095	Call Pickup group number.
CLS	PUA	Allow Call Pickup.

LD 11 – Define Call Pickup group, Class of Service, and Call Pickup key for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
RNPG	0-4095	Call Pickup group number.
CLS	PUA	Allow Call Pickup.
KEY	xx RNP	Add a Call Pickup key.

Feature operation

To answer a call in your Call Pickup group from a Meridian 1 proprietary telephone, follow these steps:

- 1 Lift the handset, or press a DN key.
- 2 Press **Call Pickup** or dial SPRE + 3.

To answer a call in your Call Pickup group from an analog (500/2500 type) telephone, follow these steps:

- 1 Lift the handset.
- 2 Dial SPRE 3 or PURN FFC.
You are connected to the caller.

Note: If you are on a call when another call comes in for someone in your Call Pickup group, you must end, park, or transfer the existing call before you can answer the new call.

Call Pickup, Directed

Directed Call Pickup (DCP) allows a caller from one Call Pickup group to pick up a ringing call in another Call Pickup group. The ringing call is picked up by dialing either its Call Pickup Group number or the DN on which it is ringing.

Directed Call Pickup adds two new methods of Call Pickup to the existing Call Pickup feature:

- Group Pickup (GPU), and
- DN Pickup (DPU).

Group Pickup lets you pick up any ringing call in your own pickup group, or any pickup group in the system.

DN Pickup allows pickup of a call ringing on a specified DN. If a DN is not assigned to any group, it defaults to Group Zero (0). This prevents any other group from picking up that DN.

Both GPU and DPU can be activated using programmable keys or Special Prefix (SPRE) code dialing. Each pickup method can be assigned to a telephone independent of the others.

The dialed digits (DN or group number) are displayed on the Digit Display as dialed. Like the Call Pickup feature, the lamp is optional for the Call Pickup and Group Call Pickup keys. No second dial tone is given after the key is pressed, nor is it given after the SPRE code is dialed.

Operating parameters

Group 0 (zero) is not a valid group number. A telephone that is not part of any group is assigned by default to group 0 (zero).

Feature interactions

Automatic Call Distribution

Automatic Call Distribution DN's are not supported by Directed Call Pickup.

Call Pickup

Call Pickup can be assigned to a telephone independent of Directed Call Pickup (DCP).

Flexible Feature Code

Flexible Feature Codes are not supported on a Meridian 1 proprietary telephone during an attempt to pick up a Dial Intercom ringing call.

Multi-Party Operations – Three-Party Service

Users of analog (500/2500 type) telephones involved in a Three-Party Service call cannot pick up another call by dialing the SPRE code.

Feature packaging

Directed Call Pickup (DCP) is package 115 and has no feature package requirements.

Feature implementation

LD 15 – Define the number of digits dialed for Call Pickup groups.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB FTR	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- OPT	(COX) COP	CO no priority or call priority for Call Pickup and Group Call Pickup.
- PKND	(1)-4	Number of digits dialed for Group Pickup. Prompted only if DCP is equipped.

LD 10 – Add or change analog (500/2500 type) telephones to allow DCP Class of Service.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
RNPG	0-4095	Call Pickup Group. 0 = no pickup group.
CLS	(GPUD) GPU A (DPUD) DPU A	(Deny) allow Group Pickup. (Deny) allow DN Pickup.

LD 11 – Add or change Meridian 1 proprietary telephones to allow Directed Call Pickup Class of Service.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
RNPG	0-4095	Call Pickup Group. 0 = no pickup group.
CLS	(GPUD) GPU (DPUD) DPU	(Deny) allow Group Pickup. (Deny) allow DN Pickup.
KEY	xx GPU xx DPU	Group Pickup key (not available on M3000). DN Pickup key (not available on M3000).

Feature operation

To answer a call in another Call Pickup group from a Meridian 1 proprietary telephone, follow these steps:

- 1 Lift the handset.
- 2 Press **GRP Pickup** or dial SPRE + 94 or PUGR FFC.
- 3 Dial the pickup group number.

To answer a call on a specified DN from a Meridian 1 proprietary telephone:

- 1 Lift the handset.
- 2 Press **DN Pickup** or dial SPRE + 95 or PUDN FFC.
- 3 Dial the extension number.

To answer a call in another Call Pickup group from an analog (500/2500 type) telephone, follow these steps:

- 1 Lift the handset and dial SPRE + 94 or PUGR FFC.
- 2 Dial the pickup group number.

To answer a call on a specified DN from an analog (500/2500 type) telephone:

- 1 Lift the handset and dial SPRE + 95 or PUDN FFC.
- 2 Dial the extension number.

Call Redirection by Time of Day

Call Redirection by Time of Day (CRTOD) adds flexibility to the existing operations of Call Forward No Answer, Hunting and Call Forward by Call Type by allowing incoming calls to be automatically redirected to a predefined Directory Number at a specified time of day.

When the Call Redirection by Time of Day (CRTOD) feature is activated, incoming calls are automatically redirected to a Directory Number through Hunting, Flexible Call Forward No Answer, External Hunt or External Call Forward No Answer. Depending on the time of day, an incoming call can also be redirected to an alternate Directory Number using the Hunting, Call Forward No Answer and Call Forward by Call Type operations.

This feature only changes which redirection Directory Number or alternative Directory Number is used to redirect a call when possible.

Operating parameters

All existing limitations that apply to the operation and redirection of Directory Numbers of Call Forward No Answer and Hunting also apply to this feature.

Only one alternate time option is allowed per telephone set at a given time.

This feature is not supported on Basic Rate Interface (BRI) terminals.

Feature interactions

When incoming calls require redirection, the order of precedence for which the system handles no answer and busy calls, is listed below:

Calls to Idle Stations:

- 1 Call Forward All Calls
- 2 Message Waiting
- 3 Call Forward No Answer
- 4 Attendant Recall

Calls to Busy Stations:

- 1 Call Forward All Calls
- 2 Hunting
- 3 Call Waiting or Camp-On
- 4 Message Waiting Forward Busy
- 5 Call Forward Busy

Call Forward All Calls

Call Forward, Internal

Call Forward/Hunt Override Via FFC

These features take precedence over Call Redirection by Time of Day (CRTOD).

Call Forward by Call Type

Hunting by Call Type

If Call Forward by Call Type (CFCT) is enabled with Call Forward No Answer (CFNA) and Call Redirection by Time of Day (CRTOD), unanswered internal calls receiving CFNA are routed to the Flexible CFNA DN, Hunt DN, Alternate Flexible CFNA DN or Alternate Hunt DN's. External calls are routed in the same manner.

If CFNA is enabled with Hunting by Call Type and Call Redirection by Time of Day (CRTOD), unanswered internal calls are redirected to the Hunt DN or Alternate Hunt DN during the alternative time. External calls are routed in the same manner. The alternate time is defined on the called DN's data block.

Call Forward No Answer

Call redirection parameters for Call Forward No Answer are obtained from the originally dialed Directory Number. When CRTOD is activated, unanswered calls given CRTOD treatment are forwarded with CFNA according to the time of day. No changes are made to the existing CFNA feature.

Call Forward No Answer, Second Level

Existing Second Level CFNA allows unanswered calls to receive Call Forward No Answer treatment twice. CRTOD parameters are obtained from the last rung Directory Number. A maximum of two levels of CFNA is allowed for an unanswered call.

Call Waiting Redirection

When Call Forward No Answer occurs on a waiting call, the redirected Directory Number used depends on the time of day if CRTOD is activated.

Multiple Appearance DN Redirection Prime

When CRTOD and Multiple Appearance DN Redirection Prime (MARP) are activated, Call Forward or Hunt are dependent on the time of day and follows the MARP feature for Call Forward No Answer or Hunt treatment.

Hunting

When CRTOD is enabled and an incoming call reaches a busy Directory Number, the time is checked against the Alternate Redirection Time Option range defined on the telephone.

User Selectable Call Redirection

User Selectable Call Redirection is not supported.

Feature packaging

Call Redirection by Time of Day is included in base X11 system software.

Feature implementation

LD 15 - Customer Data Block to set up Alternative Redirection Time.

Prompt	Response	Description
REQ:	CHG	Change existing data.
TYPE:	RDR	Change Call Redirection.
CUST	xx	Customer number.
...		
- CRTOD	YES	Call Redirection by Time of Day. Alternate time option prompts are skipped if (NO) or <CR> is entered
- - CRT0	SH SM EH EM	Alternate time option 0, where: SH = starttime in hours, SM = starttime in minutes, EH = endtime in hours and EM = endtime in minutes in international time format (hour from 00-23 and minute 00-59). Enter "X" to remove current value and reset both the start time and end time equal to 0.
- - CRT1	SH SM EH EM	Alternate time option 1, where: SH = starttime in hours, SM = starttime in minutes, EH = endtime in hours and EM = endtime in minutes in international time format (hour from 00-23 and minute 00-59). Enter "X" to remove current value and reset both the start time and end time equal to 0.
- - CRT2	SH SM EH EM	Alternate time option 2, where: SH = starttime in hours, SM = starttime in minutes, EH = endtime in hours and EM = endtime in minutes in international time format (hour from 00-23 and minute 00-59). Enter "X" to remove current value and reset both the start time and end time equal to 0.
- - CRT3	SH SM EH EM	Alternate time option 3, where: SH = starttime in hours, SM = starttime in minutes, EH = endtime in hours and EM = endtime in minutes in international time format (hour from 00-23 and minute 00-59). Enter "X" to remove current value and reset both the start time and end time equal to 0.

LD 10 - Add or Change Terminal Number Block for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ:	NEW CHG	Analog telephone can be defined or modified.
TYPE:	500	Analog (500/2500 type) telephone data block.
...		
CLS	RTDA	Call Redirection by the Time of Day allowed. If CLS = RTDD (denied) then RTDA, AEFD, AEHT, AFDN, AHNT will be removed and ARTO prompt will be reset to 0.
...		
ARTO	(0)-3	Alternate Redirection Time Option for call redirection defined in the Customer Data Block. Only prompted if CLS = RTDA. Default value 0 is entered if request is new. The value is not changed if request is CHG. <CR> to enter CLS and ARTO data.
FTR	xxxx yyyy	Enter Feature Name and Related Data.
	AFD	Alternate Call Forward No Answer DN up to 13 digits. Remove by setting CLS = RTDD.
	AHNT	Alternate Hunt DN up to 13 digits. Remove by setting CLS = RTDD.
	AEFD	Alternate External Call Forward No Answer DN up to 13 digits. Remove by setting CLS = CFTD or RTDD.
	AEHT	Alternate External Hunt up to 13 digits. Remove by setting CLS = CFTD or RTDD.

LD 11 - Add or Change Terminal Number Block for Meridian 1 proprietary telephones

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	xxxx	Telephone type, where xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
...		
CLS	RTDA	Call Redirection by the Time of Day allowed.
...		
ARTO	(0)-3	Alternate Redirection Time Option for call redirection defined in the Customer Data Block. Only prompted if CLS = RTDA. Default value 0 is entered if request is new. The value is not changed if the request = CHG. <CR> to enter CLS and ARTO data.
AFD	xxxx	Alternate Call Forward No Answer DN up to 13 digits. Remove by setting CLS = RTDD.
AHNT	xxxx	Alternate Hunt DN up to 13 digits. Remove by setting CLS = RTDD.
AEFD	xxxx	Alternate External Call Forward No Answer DN up to 13 digits. Remove by setting CLS = CFTD or RTDD. Requires Call Forward by Call Type Allowed (CFTA) Class of Service.
AEHT	xxxx	Alternate External Hunt up to 13 digits. Remove by setting CLS = CFTD or RTDD. Requires Call Forward by Call Type Allowed (CFTA) Class of Service.

Feature operation

No specific operating procedures are required to use this feature.

Call Redirection by Day

Call Redirection by Day (CRDAY) is an enhancement of the X11 Release 22 feature Call Redirection by Time of Day (CRTOD). The CRDAY feature allows you to automatically redirect incoming calls on specified days of the week and/or holidays. You can define the number of rings required before a call is redirected, and the Directory Number (DN) to which the call is redirected.

Existing parameters that apply to the operation and redirection of DNs of Call Forward No Answer (CFNA) and Hunting also apply to this feature. The CRDAY feature also uses the alternate DNs introduced by the CRTOD feature.

Operating parameters

You can configure up to four alternate day lists, DAY0 – DAY3, for each customer. Each day list can contain one or more days of the week. You can also configure up to four holiday lists, HOLIDAY0 – HOLIDAY3, for each customer. Each holiday list can contain up to 20 dates.

You can assign one alternate day list and/or one alternate holiday list for each telephone. The maximum value of the year in a holiday date is 2104.

There is a class of service (CLS) for each of CRTOD, CRDAY, and Call Redirection by Holiday (CRHOL). Each CLS can be enabled or disabled separately and are independent of each other.

CRDAY is not supported on Integrated Services Digital Network (ISDN) Basic Rate Interface (BRI) sets.

Feature interactions

Call Redirection by Time of Day

The CRTOD and CRDAY features can work together or separately. If all three classes of service are enabled, CRHOL takes precedence over CRDAY and CRTOD. When the CRDAY and CRTOD classes of service are enabled, CRDAY takes precedence.

When incoming calls require redirection, the order of precedence for which the system handles no answer and busy calls, is listed below:

Calls to Idle Stations:

Call Forward All Calls

Message Waiting

Call Forward No Answer

Attendant Recall

Calls to Busy Stations:

Call Forward All Calls

Hunting

Call Waiting or Camp-On

Message Waiting Forward Busy

Call Forward Busy

Call Forward All Calls

Call Forward, Internal

Call Forward/Hunt Override Via FFC

Call Forward No Answer

When Call Redirection by Day (CRDAY) is activated, calls unanswered after a specified number of rings are sent to Call Forward No Answer feature (CFNA) and forwarded to the alternate DN based on the alternative days/holidays configured for the set.

Call Forward All Calls

All unanswered incoming calls are sent to the Call Forward All Calls feature if there is no answer then the call is sent to the alternate CRDAY DN specified for that day/holiday.

Call Waiting Redirection

When Call Forward No Answer (CFNA) occurs on a waiting call, the Call Waiting Redirection (CWTR) feature redirects the call to a specified DN based upon the alternate days and/or holidays configured for the set. If the current day matches one of the busy set's alternate days or holidays, then the call is redirected to the CRDAY alternate DN.

Hunting

Hunting allows a call encountering a busy DN to route automatically to another DN. When CRDAY is enabled and an incoming call reaches a busy DN, the current day is checked against the alternate days and holidays specified for that set. If the current day matches one of the alternate days, the call begins the hunting route using the alternate redirection DNs defined for the set.

Hunting by Call Type

The Hunt by Call Type redirects an incoming call to a HUNT DN. With CRDAY enabled on the called DN, the incoming calls on specified Alternate Days and Holidays are redirected to the assigned alternate HUNT DN.

Group Hunting

The Group Hunting feature provides a method of hunting DNs in a group. The group is associated with a Pilot DN, that is, a DN with no associated Terminal Number (TN). The hunting is done in the order of entry of DNs in the group. If a set's list of alternate days and/or holidays program matches the current day, incoming calls are directed to Group Hunt. This feature allows an incoming DID call to be redirected to a Hunt DN or External Hunt (EHT) if Call Forward by Call Type (CFCT) is enabled. To activate this feature, the called DN must have the following class of service Hunting Denied HTD with Hunting By Call Type Allowed (HBTA), and package 131 enabled.

Multiple Appearance DN, Multiple Appearance Redirection Prime

When a call redirection feature is activated for a Multiple Appearance DN (MADN), the TN information is required. Call redirection always refers to the Multiple Appearance Redirection Prime (MARP) TN to determine the feature operation. The CRDAY feature also uses the MARP TN to get the alternate call redirection DNs.

Second Level Call Forward No Answer

The Second Level Call Forward No Answer (SFNA) allows unanswered calls to receive Call Forward No Answer (CFNA) treatment twice. The CFNA timer is configured in the customer data block (CDB) for the number of rings before a call is redirected. If SFNA is allowed on the last DN rung, then the incoming call is redirected based on the list of alternate days and/or holidays configured for the set (day/holiday class of service).

User Selectable Call Redirection

The CRDAY feature does not support User Selectable Call Redirection (USCR). Only the following redirection DNs can be changed from a set:

- CFNA DN (FDN)
- External CFNA DN (EDN)
- Hunt DN (HUNT)
- External Hunt DN (EHT)

The alternate redirection DNs cannot be changed with USCR.

Feature packaging

CRDAY is included in base X11 system software.

Feature implementation

LD 15 - To configure alternate days/holidays.

Prompt	Response	Description
REQ:	CHG	Change existing data.
TYPE:	RDR	Redirection data.
CUST	xx	Customer number. xx = 0-99 for Options 51C-81C. xx = 0-31 for Option 11C.
...		
CRDAY	YES	Call Redirection by Day. DAY0 is prompted if "YES" is entered. (NO) = default.
- DAY0	x x...x	List of alternate days in list 0. Where x = 1...7 Sunday = 1 Monday = 2 Tuesday = 3 Wednesday = 4 Thursday = 5 Friday = 6 Saturday = 7 To remove a day value precede the day number with an X.
- DAY1	x x...x	List of alternate days in list one.
- DAY2	x x...x	List of alternate days in list two.
- DAY3	x x...x	List of alternate days in list three.
CRHOL		Call Redirection by Holiday.
	NEW	Add new data.
	CHG	Change existing data.
	OUT	Remove existing data.
	OUT ALL	Delete all holidays in the list. There are a maximum of 20 holidays allowed. The four holiday options lists are created from these original 20 holidays.

- DATE	dd mm yyyy	Enter holiday date. dd = day. mm = month. yyyy = year (optional, with maximum year value of 2104). If the year is not entered, the holiday is repeated every year.
--HOL_OPT	n n n n ALL	Holiday Option List to which entered date applies. Where: n = 0, 1, 2, or 3. Select all four holiday option lists. Precede the holiday list with X to remove.
- DATE	dd mm yyyy <CR>	Continue to input holidays to maximum of 20. Stop adding holidays and continue administration.
--HOL_OPT	n n n n	Holiday Option List to which entered date applies. Where: n = 0, 1, 2, or 3. Select all four holiday option lists. Precede the holiday list with X to remove.

LD 10 - Enable call redirection by day/holiday for analog sets.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	500	Set type. 500/2500 set data block.
TN	l s c u c u	Terminal Number l = loop, s = shelf, c = card, u = unit. c = card, u = unit for Option 11C.
CUST		

...		
CLS	FNA FBA RBDA RBHA	Call Forward No Answer Allowed. Call Forward Busy Allowed. Redirection By Day Allowed. Redirection By Holiday Allowed.
...		
ADAY	(0) - 3	Alternate days in DAY list 0-3 are selected for the set. Enter the list of alternate days listed in the Customer Data Block.
AHOL	(0) - 3	Enter the list of alternate redirection holidays in Holiday list 0-3 as selected for the set defined in the Customer Data Block.
...		
FTR	AFD x...x	Alternate forward DN to which all internal calls on an alternate day and/or holiday are redirected upon no answer.
	AHNT x...x	Alternate hunt DN to which all internal calls on an alternate day and/or holiday are redirected when set is busy or no answer. (CFNA to HUNT).
	AEFD x...x	Alternate external forward DN to which all external calls on an alternate day and/or holiday are redirected upon no answer.
	AEHT x...x	Alternate external hunt DN to which all external calls on an alternate day and/or holiday are redirected when set is busy or no answer (CFNA to HUNT).

LD 11 - Enable call redirection by day/holiday for a digital sets.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	xxxx	Type of set: Where xxxx = 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number l = loop, s = shelf, c = card, u = unit for Options 51C-81C. c = card, u = unit for Option 11C.
CUST		
...		
CLS	FNA FBA RBDA RBHA	Call Forward No Answer Allowed. Call Forward Busy Allowed. Redirection By Day Allowed. Redirection By Holiday Allowed.
...		
ADAY	(0) - 3	Alternate days in DAY list 0 - 3 are selected for the DN.
AHOL	(0) - 3	Enter the list of alternate redirection holidays in Holiday list 0-3 as selected for sets defined in the Customer Data Block.
...		
AFD	x...x	Alternate forward DN to which all internal call forward DNs on alternate days/and all holidays are redirected upon no answer.
AHNT	x...x	When the DN is busy all incoming calls in the HOLIDAY list are redirected to the alternate hunt DN.
AEFD	x...x	Alternate external forward DN to which incoming calls are redirected on alternate days.
AEHT	x...x	When the DN is busy, all incoming calls for the specified holiday are redirected to the alternate external hunt DN.

Feature operation

No specific operating procedures are required to use this feature.

Call Transfer

Call Transfer allows a telephone user on any two-party call to hold the existing call and originate another call to a third party. The user may consult privately or transfer the original call to the third party. A call is transferred by pressing a dedicated key on Meridian 1 proprietary telephones or by flashing the switchhook on analog (500/2500 type) telephones.

Operating parameters

A separate Call Transfer key/lamp pair must be assigned to Meridian 1 proprietary telephones.

A transfer allowed Class of Service must be specified for analog (500/2500 type) telephones to access this feature.

If trunks are involved, successful completion of a transfer depends on the access restrictions assigned to the stations and trunks.

While the originating side of a call is linked to a transfer or conference key (i.e., the originator of a transfer/conference call has not yet completed the transfer/conference), the terminating side cannot initiate a transfer or conference. Conference calls cannot be transferred.

Feature interactions

Advice of Charge for EuroISDN

When a set is connected to an ISDN CO trunk conveying AOC charging information, the received call charging information is stored against this set.

If the user transfers the call while the dialed set is still ringing, call charging information is stored against the transferring set until the call is either answered or abandoned by the external party. If the user consults with the dialed transfer set, charging information is stored against the transferring set until the call is either answered or abandoned. If the transferred call is redirected by a call redirection feature, the call is charged against the transferring set until the call transfer is completed and the call is answered. In all instances, if the call is answered, new call charging information is stored against the set receiving the transferred call.

AC15 Recall: Transfer from Norstar

A party involved in a consultation call (an active or held party) cannot initiate a consultation call for preventing call chaining. This principle is maintained in the following cases:

- the party is an AC15 trunk (if it attempts to initiate a consultation call, the recall signal is ignored), and
- the party is a local set, but the consultation call is made by an AC15 trunk.

Attendant Break-In

Until a transferred call is connected, the attendant cannot break in to a call that is being transferred.

Automatic Redial

When an Automatic Redial (ARDL) call is not accepted by the calling party, the Call Transfer (TRN) key is ignored.

Call Forward by Call Type

Calls modified by Call Transfer receive Call Forward by Call Type treatment. If party A (telephone or trunk) calls party B, and B transfers to party C, the forwarding DN and Class of Service are obtained from party C

Call Forward, Break-In and Hunt Internal/External Network Wide

The treatment of a call following a call transfer (Call Forward/Hunt by Call Type) is based on the transferring set and the call originator's set. The set display on network call modification or redirection does not change.

Call Forward/Hunt Override Via Flexible Feature Code

A set can activate Call Forward/Hunt Override Via FFC when initiating a transfer. If the transfer is completed while ringing, the Call Forward/Hunt Override will still be active and passed on to the transferred party.

Call Hold, Deluxe

A consultation call can be placed on Hold.

Call Page Network Wide

A station set or Attendant Console that transfers an external Call Page Network Wide (PAGENET) uncontrolled call is not blocked. However, an external PAGENET controlled call is blocked.

Call Party Name Display

When the Transfer key is pressed during an active call, the display clears. The call is in a held state. The DN and name of the transferred telephone appear on the display when the DN is dialed. When the transfer is complete, the transferring telephone's display clears because the telephone is now disconnected. The transferred telephone's display changes to show the name of the newly connected party.

Call Pickup Network Wide

A call may be picked up before or after the transferring party has completed the transfer.

For pickup before transfer completion, the transferring party is displayed updated information by the Call Pickup Network Wide feature when the call is picked up. Then, when the transfer is completed, normal call transfer information is exchanged by each party involved in the final call.

For pickup after call transfer completion, everything happens as if the call had been made directly from calling to ringing party. After pickup is performed, displays are updated as for normal Call Pickup.

Calling Party Name Display Denied

During a Call Forward or Call Transfer, the calling party digits and forwarding/transferring party digits are displayed on the terminating set. This display is allowed or denied depending on the Class of Service of the calling set and the forwarding/transferring set. The name of the forwarding/transferring set is not displayed on the calling and terminating set.

Calling Party Privacy

If an incoming non-ISDN call is being transferred or an incoming ISDN call is transferred to a non-ISDN trunk, the Calling Party Name and Number will not be passed on to the terminating set.

For cases where an incoming call with the Privacy Indicator is transferred over an MCDN trunk, or to a local station, the name and/or number of the originating party will not be displayed on the set of the final terminating party.

Charge Account and Calling Party Number

A Call Transfer call produces two records: a Call Detail Recording(CDR) start record and a CDR end record.

Charge Account, Forced

If an FCA code is entered at the beginning of a call, the new unrestricted Class of Service remains in effect for any transfer or conference made during the call. If all FCA criteria are met, an account number entered after activating the Conference key, Call Transfer key, or a switchhook flash is interpreted as an FCA code.

China – Attendant Monitor

If any party at the customer location involved in a monitored call attempts to activate call transfer, monitoring is immediately deactivated.

China – Supervised Analog Lines

If more than one active call is extended to an analog line, the call type associated with an analog line is determined by the first active call. The call type is assumed to be incoming and hook flash supervision applies if a terminal device answers an incoming call from an idle state. If the terminal device performs a switch hook flash to put the first party on hold and initiates a consultation call, the Battery Reversal feature is not supported; no battery reversal answer signal is extended to the terminal device when the second party answers.

If the first party disconnects while the terminal device is connected to the second party, no disconnect supervision is extended to the terminal device. However, hook flash disconnect supervision is extended to the terminal device when the second party disconnects (i.e., a disconnect supervision signal is sent only when the last party connected to the terminal disconnects).

If a terminal device originates an outgoing call, battery reversal answer supervision is extended when the called party answers. The polarity of the line remains reversed polarity when the terminal device performs a switch hook flash and then initiates a consultation call to a second party. The analog line is reverted to normal polarity when the terminal device completes the transfer and drops out or when the last of either the held party or the consultation party disconnects.

China – Toll Call Loss Plan

Toll pad switching is also provided after call transfer has been completed. When the toll call is diverted, the diverted party's pad level is switched back to its original value (unless it is an OPS station using dynamic switching). The Toll Loss Plan is applied again for the new call as if it is a direct call. For Call Transfer, it is provided after the transferring party completes the transfer and drops out. For Call Forward or Hunting, it is provided when the forwarding or hunting call is answered.

Conference

Conference can be used to transfer calls, eliminating the need for a separate Call Transfer key/lamp pair on Meridian 1 proprietary telephones. Calls in the ringing state cannot be transferred with Conference. The third party must answer before the transfer can be completed.

A conference can also be established after initiating a Call Transfer operation. After the third party answers, pressing the Conference key establishes a three-way conference.

When a switchhook flash transfers calls on analog (500/2500 type) telephones with three-party conference (C6A) Class of Service, the transferring party goes on hook, leaving the other two parties established. Telephones with a C6A Class of Service involved in a conference having more than three parties must add the last party to the conference, then flash the switchhook and go on hook to complete the transfer.

Dial Intercom

When using Conference or Transfer, the voice option is not provided if the call is terminated before the conference or transfer is completed. If an analog (500/2500 type) telephone is part of a Dial Intercom Group (DIG), the user of the telephone can conference only with another user whose telephone is within the same Dial Intercom Group (DIG)

Display Calling Party Denied

When a set transfers a call, display information is updated according to the Class of Service of the respective sets. This occurs for both internal and ISDN network calls.

If an unsupervised call transfer occurs on an internal call, the DN of the terminating set is displayed to the calling party regardless of the DPD Class of Service options that are configured on the terminating set.

Dial Access to Group Calls

Group Call

Call Transfer cannot be applied to Dial Access to Group Calls or Group Call.

Group Hunt

Any call may be transferred to a Group Hunt Pilot DN. If there are no idle sets available for the call transfer, the call is queued to the Pilot DN and the caller receives ring back tone. If the call cannot be queued because the queue threshold has been reached, the caller receives busy tone.

Group Hunting Queuing Limitation Enhancement

If a call is transferred to the PLDN, and all Group Hunt list members are busy, the call is queued to the PLDN, if the number of queued calls is less than the Group Hunt Threshold limit. If the number of queued calls has reached the Group Hunt Threshold limit, the call is not queued and busy tone is returned to the transferring party.

Held Call Clearing

Active Call Transfer calls are cleared by either an on-hook or Release key action. Held Call Transfer calls are cleared only by an on-hook action, and not by a Release key action.

In-Band Automatic Number Identification

If an agent transfers an In-Band Automatic Number Identification (IANI) call to another Automatic Call Distribution DN, the ANI number is displayed on the terminating set's display.

ISDN QSIG/EuroISDN Call Completion

Call Completion notification is only presented to the Call Completion originating set. This notification cannot be transferred to another station. Once the second call is completed, the call can be transferred.

If a user encounters a busy or no answer situation during a transfer operation, Call Completion can be activated.

ISDN QSIG Name Display

After the completion of a call transfer, an incoming QSIG call with name display presentation allowed has name information displayed on the destination set. If the incoming QSIG call has presentation denied, name information is not displayed to the destination set.

Loop Start Supervisory Trunks

If an internal station user transfers an answered outgoing call to another station in the ringing state, then any disconnect signal received from the far end causes the trunk to be released and ringing of the internal set to stop. This operation eliminates the problem of holding trunks and extensions due to lack of supervision on Loop Start trunks.

Meridian 911

Trunk priority associated with an incoming 911 call is only preserved if blind transfer is used.

Meridian 911 - Call Abandon

M911 abandoned calls cannot be transferred.

Message Registration

The party that originates a call is charged. The charge cannot be moved to another party using Call Transfer.

Multi-Party Operations

Analog (500/2500 type) telephones with TSA Class of Service can Call Transfer by going on-hook after establishing a conference. This differs from operation with XFA Class of service, where transfer can be achieved by going on-hook during Consultation connection.

If an analog (500/2500 type) telephone with TSA Class of Service goes on-hook during consultation connection, it is treated as mis-operation of All Other Cases and the recovery actions are done based on the CCDO and AOCS options selected in LD 15. If CDOC = NO, an analog (500/2500 type) telephone can achieve a transfer by going on-hook after establishing a conference.

During the Consultation connection, the non-controlling parties are restricted from using Call Transfer, Conference and Three-party Service features.

Multi-Party Operations Enhancements

A party receiving Patience Tone or recall of mis-operation ringback is not able to Call Transfer.

Music, Enhanced

The held party receives Music when the other party presses the Call Transfer key. The Music connection remains until the Call Transfer key or the DN key is pressed, ending the Consultation Hold state.

Network Intercom

Hot Type I calls may be transferred to another Hot Line key or to a normal DN key; likewise calls on a normal DN key may be transferred to a Hot Line key.

Off-Hook Alarm Security

A telephone receives the Off-Hook Alarm Security treatment if the telephone has ASCA Class of Service and attempts to transfer a call and the ASTM expires.

On Hold on Loudspeaker

It will not be possible to transfer the loudspeaker call to another party.

Periodic Pulse Metering

If the user of a station which is connected to a metered trunk transfers an internal call to another internal station while the dialed station is still ringing, the Periodic Pulse Metering (PPM) pulse count is accumulated against the transferring station until the call is answered by the dialed party, or abandoned by the dialing party. When the call is answered, the pulses are counted against the station to which the call has been transferred. If the station user transfers the call after consulting with the dialed station user, then the PPM pulses are counted against the controlling station until the call is transferred. When the call is transferred, the PPM pulses are counted against the station to which the call has been transferred. If the transferred call is redirected using any of the call redirection features such as Call Forward or Hunting, the call is charged against the transferring station until the call is transferred. The pulses are then counted against the answering station. This method ensures that PPM meters are charged in a manner consistent with the printing of CDR records.

Predictive Dialing

The application sends the Fast Transfer request on behalf of a Meridian 1 proprietary telephone, and then the switch initiates and completes the transfer immediately which is similar to a normal call transfer from a Meridian 1 proprietary telephone.

In a Predictive Dialing scenario where the autodialer (origination DN) is a Meridian 1 proprietary telephone, the Make Call message sent by the application to the switch to make a call on behalf of the Meridian 1 proprietary telephone, and then the call transfer call, will interact with the Meridian 1 proprietary telephone Call Transfer feature. The autodialer is configured with Class of Service TRN so that the switch can transfer the call to the target destination.

The application sends the Fast Transfer request on behalf of an analog (500/2500 type) telephone. The switch will then initiate and complete the transfer in one step.

In a predictive dialing scenario, the application will send the Make Call request on behalf of the autodialer (analog (500/2500 type) telephone) to have the switch make the call, and then transfer the call when the switch receives the Fast Transfer message. The autodialer needs to be configured with Classes of Service Dial Pulse (DIP) and Transfer Allowed (XFA) for 500 sets, or with Classes of Service Digitone (DTN) and XFA for 2500 sets.

Privacy Override

Calls in a Privacy Override conference state cannot be transferred.

Station Activity Records

A Station Activity Record is generated when a set with Class of Service Call Detail Monitoring Allowed (CDMA) transfers a trunk call. CDR "X" record generation is not affected by this development. The set to which the call is transferred also produces a Station Activity Record if it has Class of Service CDMA and answers the call. When the second "D" record is produced (by the set to which the call is transferred), the digits field of the "D" record shows the digits dialed by the transferring set.

Three-Party Service

The party receiving the patience tone or the Misoperation ringback is not able to make a call transfer.

Trunk Barring

The originator of a call transfer, unless otherwise restricted, is able to connect to a denied party on a consultation basis. Operating the Transfer key on a Meridian 1 proprietary telephone or going on hook on an analog (500/2500 type) telephone does not result in a call transfer if the Originating Trunk Connection is barred. The user of a Meridian 1 proprietary telephone remains connected to the denied party until releasing the connection and returning to the held Originating Trunk Connection. The user of an analog (500/2500 type) telephone is re-rung by the Originating Trunk Connection when transfer is attempted and denied.

Trunk to Trunk Connection

To transfer an external trunk on ringing across a supervised analog network TIE trunk, the external trunk and internal TIE line must have both answer and disconnect supervision, and the external call must be established. To transfer one outgoing external trunk to another, both external trunks must have answer and disconnect supervision, and both external calls must be established.

Feature packaging

Call Transfer is included in base X11 system software.

Feature implementation

LD 10 – Allow/deny Call Transfer for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(XFD) XFA	(Deny) allow Call Transfer.

LD 11 – Add a Call Transfer key for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
KEY	xx TRN	Add a Call Transfer key (the M2317 and M3000 must use key 26).

Feature operation

To transfer an active call on a Meridian 1 proprietary telephone, follow these steps:

- 1 Press **Transfer**.
 The call is on hold.
- 2 Dial the number where you want to transfer the call.
- 3 Press **Transfer** when you hear ringing or after your call is answered.
 When your call is answered, you may speak privately with the new party before completing the transfer.

Note: To cancel an incomplete transfer, press the key beside the fast flashing indicator and you return to the call you tried to transfer. To conference all three parties, press the Conference key, if equipped.

To transfer an active call on an analog (500/2500 type) telephone, follow these steps:

- 1 Flash the switchhook.
 The call is on hold.
- 2 Dial the number where you want to transfer the call.
- 3 Flash the switchhook when you hear ringing or after your call is answered.

When your call is answered, you may speak privately with the new party before completing the transfer.

Note: To cancel an incomplete transfer, hang up, then lift the handset and flash the switchhook to return to the call.

Restricted Call Transfer

The Restricted Call Transfer feature provides the Call Transfer Restricted (XFR) Class of Service for analog (500/2500 type) telephones. By assigning XFR Class of Service in LD 10, a call transfer attempt will not result in action. This is different from the Call Transfer Denied (XFD) Class of Service, which will route the call to the attendant when a transfer is attempted.

Feature requirements

The Three-Party Service Allowed Class of Service, part of the Multi-Party Operations feature, cannot be used together with the XFR Class of Service.

Feature interactions

Restricted Call Transfer does not interact with other features.

Feature packaging

The Restricted Call Transfer capability is included in base X11 system software.

Feature implementation

LD 10 – Define two new options for an analog (500/2500 type) telephone.

Prompt	Response	Description
TYPE	NEW CHG	Add new data. Change existing data.
REQ	500	Telephone type.
...		
CLS	XFR	Restrict call transfers and do not recall to attendant.

Feature operation

With the Restricted Call Transfer feature enabled, users of analog (500/2500 type) telephones cannot transfer calls. Attempted call transfers are not routed to the attendant.

Call Waiting/Internal Call Waiting

Call Waiting notifies a telephone user on an established call (internal or external) that an external call is waiting to be answered. Meridian 1 proprietary telephones must have a Call Waiting key/lamp pair assigned and a Class of Service that allows a warning tone. Call Waiting is applicable to the Prime DN or any single appearance DN on the telephone. When an external call comes into a Meridian 1 proprietary telephone and the telephone user is on a call, the Call Waiting lamp flashes and a buzz sounds through the telephone's speaker.

To use Call Waiting, analog (500/2500 type) telephones must have a Class of Service that allows Call Waiting and a warning tone. Two tone bursts are received through the handset to advise an analog (500/2500 type) telephone user of a waiting call. Note that the two calls cannot be conferenced together.

Call Waiting applies to Direct Inward Dialing (DID), Central Office (CO), Foreign Exchange (FX), and Wide Area Telephone Service (WATS) trunk calls extended to a busy telephone by the attendant. With X11 Release 8 and later releases, Call Waiting also applies to calls on TIE and Common Control Switching Arrangement (CCSA) trunks.

Internal Call Waiting, X11 Release 8 and later releases

This feature provides Call Waiting for internal calls. This option, defined on a per-telephone basis, allows Call Waiting for calls from other telephones within the customer group. These calls include the following:

- direct telephone-to-telephone calls
- attendant-extended internal calls
- telephone-to-telephone call transfer of all trunk and internal calls

Call Waiting Flexible Feature Codes

With X11 Release 20 or later, a user may activate Call Waiting from an analog (500/2500 type) telephone with Call Waiting Class of Service by dialing the Call Waiting Activate (CWGA) FFC (defined in LD 57). To deactivate Call Waiting, the user dials either the Call Waiting Deactivate (CWGD) FFC (defined in LD 57) or the general Deactivate (DEAF) FFC (also defined in LD 57).

If Call Waiting is deactivated using FFCs, then station-to-station call waiting is also deactivated at the telephone.

If the Class of Service is CWA, ACTIV or DEACT will be printed in brackets when CWT is activated or deactivated.

The CWT FFCs do not affect Precedence Call Waiting.

Operating parameters

A Meridian 1 proprietary telephone can have only one working Call Waiting key/lamp pair.

Telephones with internal telephone-to-telephone Call Waiting must also have external Call Waiting (CWA) Class of Service.

A Call Waiting indication is not presented to a single-line telephone in the transfer or conference mode.

An analog (500/2500 type) telephone user receiving a second call can connect alternately to the original call and the Call Waiting call by a switchhook flash. The user cannot transfer or conference either call.

When a second call goes to a telephone that already has a Call Waiting call, the second call is recalled to the attendant if it is not answered by the number of rings defined in the Customer Data Block (RTIM prompt, field zz).

An analog (500/2500 type) telephone user who has received a Call Waiting call routed from the attendant cannot reconnect to the original call until it has been released from the console.

Attendant Administration does not support the Internal Call Waiting feature.

If a call is waiting and Call Waiting is deactivated using the Call Waiting Deactivate (CWGD) FFC, the call that is waiting is allowed to continue waiting while any new calls will not be allowed to wait.

Feature interactions

Advice of Charge for EuroISDN

When an Advice of Charge call is transferred to a busy set with Call Waiting Allowed, the transferring station is charged until the call is answered.

Attendant Blocking of Directory Number

If a set that has the Station-to-station Call Waiting feature active (CLS SWA and a Call Waiting (CWT) key for SL-1 and digital sets) is idle when an Attendant Blocking of DN attempt is made, the Attendant Blocking of DN attempt will be allowed and processed as normal. If the DN is idle and there is an active call on the Call Waiting key, the Attendant Blocking of DN attempt will be allowed.

If a set has the Station-to-station Call Waiting feature active and the DN to be blocked is busy when an Attendant Blocking of DN attempt is made, the Attendant Blocking of DN attempt will be canceled and busy tone will be returned.

For a set that has the Call Waiting (or Station-to-station Call Waiting) feature active and a DN is blocked due to the Attendant Blocking of DN feature, any incoming call to the blocked DN will receive busy tone.

Attendant Break-In

If the destination DN has a camped-on incoming trunk call, the attendant cannot extend the urgent incoming call as a Camp-On call.

Attendant Incoming Call Indicators

The ICI feature is used with the Call Waiting feature to recognize, answer, and process incoming calls.

Attendant Queuing

Call Waiting options do not apply to calls queued to a specified attendant. The exception to this is the display call waiting key, which shows the number of calls in the overall attendant queue and the calls in the queue for a specified attendant.

Automatic Line Selection

A call on the Call Waiting key is not selected.

Call Forward All Calls Hunting

Call Forward All Calls and Hunting take precedence over Call Waiting.

Call Forward Busy - Meridian 1 proprietary telephones

If Class of Service allows Call Forward Busy and Call Waiting Allowed, and the Meridian 1 proprietary telephone has a Call Waiting key, calls do not forward to the attendant when the telephone is busy and another call is waiting.

Call Forward Busy - Analog (500/2500 type) telephones

If a telephone has Call Forward Busy and Call Waiting Allowed Class of Service, calls are forwarded to the attendant when the telephone is busy and has another call waiting.

Call Forward/Hunt Override Via Flexible Feature Code

Call Waiting can be used even if the Call Forward/Hunt Override Via FFC feature has been activated. When a busy set with Call Waiting configured is encountered, it will terminate on Call Waiting.

Call Forward, Internal Calls

Internal Call Forward takes precedence over Call Waiting.

Call Forward No Answer

If a call to a telephone gets Call Forward No Answer treatment to another telephone which is busy, Call Waiting and Camp-On do not apply. The call will attempt to terminate on the original DN again.

Call Park

A recall of a parked call is not presented in the Call Waiting mode. If an internal telephone is in the parked state, Call Waiting to that telephone is not provided.

Call Pickup Network Wide

Call Waiting calls cannot be picked up.

Call Waiting Redirection

The option selected for Call Waiting Redirection treatment also applies to calls given Internal Call Waiting treatment.

Camp-On

Call Waiting and Camp-On are mutually exclusive. If a Call Waiting Class of Service or key is defined, Camp-On cannot be provided.

Camp-on, Station

Call Waiting takes precedence over Station Camp-On.

China Number 1 Signaling - Called Party Control

An attendant cannot apply Call Waiting on an outgoing call that follows Called Party Control.

Dial Intercom

Call Waiting does not apply to a Dial Intercom appearance.

Digital Private Signaling System #1 (DPNSS1) Executive Intrusion

Executive Intrusion is permitted (consult-only state) into a requested party having call waiting.

Directory Number Delayed Ringing

Call Waiting tones apply to SCN/MCN keys as per existing operation. The Directory Number Delayed Ringing does not apply, and the user is informed of the incoming call immediately.

Flexible Feature Code Boss Secretarial Filtering

Call Waiting to a boss set with filtering active is routed to the secretary set.

Flexible Feature Code enhancement

The Call Waiting Deactivate (CWGD) FFC may be used to deactivate Call Waiting. If a call is waiting when Call Waiting is deactivated, the call is allowed to continue waiting while any new calls will not be allowed to wait.

Flexible Voice/Data Terminal Number

Call Waiting is not supported on data calls to a dynamic voice/ data TN. Call Waiting is supported for voice calls to dynamic voice/ data TN.

Group Hunt

Call Waiting to a Pilot DN will not be supported.

Hunting

If a call comes into a busy DN, it begins the hunting route defined from the called DN. If there are idle DNs on the hunting route, the call becomes a Call Waiting call on the called DN.

Idle Extension Notification

This feature can be used even if the Call Forward/Hunt Override Via FFC feature is activated. When a busy set is encountered, it is possible to place an IEN request against the set.

ISDN QSIG/EuroISDN Call Completion

On an Analog (500/2500 type) set, Call Completion notification waits until the set has finished an active call. If Call Waiting is configured on a set, notification is presented after the Call Waiting call. If an additional call is queued while Ring Again free notification is waiting on a set, the waiting call takes precedence over the Call Completion notification. An established Call Completion call is also queued if a set has Call Waiting feature equipped and is occupied on another call.

Message Center

Call Waiting calls are not forwarded to a Message Center.

Multi-Party Operations

An analog (500/2500 type) telephone may be assigned both CWA and TSA Classes of Service. The user can establish a Consultation connection by answering Call Waiting during an active established call. If this is done, Control Digit features (CNFD, TGLD, and DISD) are available. Note that Programmable Control Digit TGLD, rather than a switchhook flash, is used to toggle the calls. Operation with XFA Class of Service is unchanged.

The Three-party Service feature changes the operation of Call Waiting for all analog (500/2500 type) telephones as follows (regardless of whether the sets have TSA Class of Service. If an analog (500/2500 type) telephone user activates Waiting during an active call so as to establish a Consultation connection, and if the user goes on-hook during the Consultation connection, the operation is treated as an AOCS mis-operation. This recovery of mis-operation will take place even if the MPO package is not equipped. In this case, the controlling party will be re-rung by the held party regardless of the CCDO and the recovery of mis-operation options.

If an analog (500/2500 type) telephone user attempts to set up a Consultation connection by dialing a busy DN and if the Call Waiting conditions are satisfied, the controlling party will hear ringback tone and the active party will hear Call Waiting tone. If the controlling party goes on-hook before the active party has answered, the held call is disconnected regardless of the MPO options and Call Waiting tone is removed from the active party.

Multi-Party Operations – Three-Party Service

An analog (500/2500 type) telephone may be assigned both CWA and TSA Classes of Service. The user can establish a Consultation connection by answering Call Waiting during an active established call. If this is done, Control Digit features (CNFD, TGLD, and DISD) are available. Note that Programmable Control Digit TGLD, rather than a switchhook flash, is used to toggle the calls. Operation with XFA Class of Service is unchanged.

The Three-party Service feature changes the operation of Call Waiting for all analog (500/2500 type) telephones as follows (regardless of whether the sets have TSA Class of Service. If an analog (500/2500 type) telephone user activates Waiting during an active call so as to establish a Consultation connection, and if the user goes on-hook during the Consultation connection, the operation is treated as an AOCS mis-operation. This recovery of mis-operation will take place even if the MPO package is not equipped. In this case, the controlling party will be re-rung by the held party regardless of the CCDO and the recovery of mis-operation options.

If an analog (500/2500 type) telephone user attempts to set up a Consultation connection by dialing a busy DN and if the Call Waiting conditions are satisfied, the controlling party will hear ringback tone and the active party will hear Call Waiting tone. If the controlling party goes on-hook before the active party has answered, the held call is disconnected regardless of the MPO options and Call Waiting tone is removed from the active party.

Night Restriction Classes of Service

If Call Waiting and Night Restriction for Call Waiting Class of Service (NRWA) are assigned, Call Waiting will be operational for the set only when Night Service is in effect.

Night Service Enhancements

This feature will terminate incoming Night calls to busy DNs by applying Call Waiting. This will be done even if the Night DN is an analog (500/2500 type) telephone with Call Waiting Denied (CWD) Class of Service, or if the Night DN is a Meridian 1 proprietary telephone without a Call Waiting (CWT) key assigned.

All telephones (analog (500/2500 type) and Meridian 1 proprietary) will be given Night Call Waiting tone, if the NWT prompt in LD 15 was responded to with "YES", regardless of the Warning Tone (WTA, WTD) Class of Service setting of the set. Meridian 1 proprietary telephones will be given Night Call Waiting tone in the handset instead of the speaker buzz for Call Waiting.

On Hold on Loudspeaker

Call Waiting can be applied to a busy loudspeaker DN.

Ring Again

The user is notified that a previously busy line is free only when both the original call and the waiting call have disconnected.

Feature packaging

Call Waiting/Internal Call Waiting is included in base X11 system software.

For Call Waiting FFCs, the following packages are required:

- Flexible Feature Codes (FFC) package 139
- Background Terminal Facility (BGD) package 99

Feature implementation

LD 10 – Allow/deny Call Waiting for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(CWD) CWA (SWD) SWA (WTA) WTD	(Deny) allow Call Waiting. (Deny) allow internal Call Waiting (if SWA is defined, CWA must also be defined). (Allow) deny warning tone.

LD 11 – Allow/deny Call Waiting for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(SWD) SWA (WTA) WTD	(Deny) allow internal Call Waiting. (Allow) deny warning tone.
KEY	xx CWT	Add a Call Waiting key (the M3000 must use key 24).

LD 10 – Define Call Waiting for an analog (500/2500 type) telephone.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	500	Telephone type.
CUST	xx	Customer number.
...		
CLS	CWA	Call Waiting Allowed Class of Service.

Feature operation

To answer a Call Waiting call on Meridian 1 proprietary telephones, follow these steps:

- 1 Press **Hold** when you hear a tone during a phone call.
- 2 Press **Call Wait** to answer the waiting call.

To return to your first call, follow these steps:

- 1 Press **Hold** if you want to put your second call on Hold.
- 2 Press the extension key that has the first call on it.

To answer a Call Waiting call on analog (500/2500 type) telephones, follow these steps:

- Flash the switchhook when you hear a beep during a phone call.
Your current call is on Hold and you are connected to the waiting call.

To return to your first call:

- Flash the switchhook.

The following instructions are for using Call Waiting FFCs:

- Allow – The user must dial the Call Waiting Activate (CWGA) FFC.

- Disallow – The user must dial the Call Waiting Deactivate (ATDD) FFC or the Deactivate (DEAF) FFC.
- Use prerequisites – To set Call Waiting, the telephone must have Call Waiting Allowed (CWA) Class of Service.

Introduced in X11 Release:	21
Networking:	No

Call Waiting Redirection

Previously, Call Waiting notified an active set that a second call was waiting to be answered on that Directory Number (DN). For non-attendant extended calls, the incoming call received Call Waiting treatment until the call was answered by the called party or the calling party disconnected. For attendant-extended calls, the incoming call received Call Waiting treatment until the Call Waiting Recall timer timed out, at which time the call was recalled to the attendant. The attendant had to then extend the call to a message center or voice mail. However, since the attendant was given no indication as the reason for the recall (called party busy or not answering), it was difficult for the attendant to redirect the call properly.

In X11 Release 21, the Call Waiting Redirection feature follows the Call Forward No Answer (CFNA) treatment defined for the DN. No modifications have been made; all existing Call Forward No Answer functionalities will apply to redirected calls.

Operating parameters

The existing Call Waiting and Call Forward No Answer limitations apply to the Call Waiting Redirection feature. The Call Forward No Answer feature is used by the Call Waiting Redirection feature to redirect “no answer” calls given Call Waiting treatment.

Although the Call Waiting treatment is applied to a busy DN, the CFNA call redirection treatment given by the Call Waiting Redirection feature is for a “no answer” presentation. The unanswered Call Waiting call is treated as a call presented to an idle “no answered” DN. Calls redirected to messaging services or sets with displays are provided with the “no answer” call redirection reason.

The existing implementation of Call Forward No Answer is used to select the TN with the CFNA DN for the “no answer” Call Waiting call. Calls are redirected according to the call type (internal or external) as defined at the designated call redirection TN chosen by CFNA.

Feature interactions

Automatic Timed Reminders

Automatic Timed Recalls

When CFNA is active, the Slow Answer Recall timer begins only after the call reaches its final destination. CFNA has precedence over Attendant Recall for attendant-extended calls. Irrespective of the relative time-out intervals for each feature, ringing continues as long as allowed by CFNA for sets with CFNA enabled.

Since the Call Waiting Redirection feature applies CFNA treatment to a Call Waiting call, the Call Waiting Redirection feature also has precedence over the Call Waiting recall timer.

Basic Rate Interface

The Call Waiting Redirection feature is not applicable to Basic Rate Interface (BRI) terminals. However, an ISDN BRI terminal may redirect a call using hunting or CFNA.

Call Forward All Calls

Call Forward, Internal

Call Forward All Calls and Internal Call Forward both have precedence over Call Waiting and the Call Waiting Redirection feature.

Call Forward and Hunt by Call Type

If Call Forward and Hunt by Call Type (CFCT) is enabled with Call Forward No Answer and Call Waiting Redirection, “no answer” internal calls receiving Call Waiting treatment are routed for CFNA treatment to the Flexible CFNA DN (FDN) or Hunt DN, and “no answer” external calls are routed for CFNA treatment to the External Flexible CFNA DN (EFD) or External Hunt DN (EHT).

Call Forward/Hunt Override via Flexible Feature Code

There is no interaction with the Call Waiting treatment component of the Call Waiting Redirection feature. However, Call Forward/Hunt Override via Flexible Feature Code does override CFNA, and thus the CFNA treatment given to unanswered Call Waiting calls by the Call Waiting Redirection feature is overridden by the Call Forward/Hunt Override via Flexible Feature Code (CFHO) feature. The incoming call will continue to be given Call Waiting treatment as if the Call Waiting Redirection feature is disabled when the CFHO feature is enabled by the calling party.

Call Forward No Answer

Per existing Call Forward No Answer (CFNA) feature operation, the call redirection parameters for CFNA are obtained from the originally dialed DN for redirected calls.

Existing Network CFNA treatment is applied to calls receiving Call Waiting treatment on sets with CFNA and the Call Waiting Redirection feature enabled if the Call Waiting call is not answered before the expiration of the CFNA timer and the CFNA DN is on another node.

Call Forward No Answer, Second Level

The existing Second Level Call Forward No Answer treatment is applicable to Call Waiting calls redirected by CFNA (first level) with the Call Waiting Redirection feature which are still not answered at the last rung DN.

Call Redirection by Time of Day

When Call Forward No Answer occurs on a waiting call, the redirected Directory Number used depends on the time of day if Call Redirection by Time of Day (CRTOD) is activated.

Call Pickup Network Wide

A call that is redirected by the Call Waiting Redirection feature to the active set's Call Forward No Answer DN may be picked up.

Call Waiting

The option selected for Call Waiting Redirection treatment also applies to calls given Internal Call Waiting treatment.

Camp-On

There is no interaction as Call Waiting and Camp-On are mutually exclusive.

Direct Inward Dialing Call Forward No Answer Timer

The Direct Inward Dialing Call Forward No Answer Timer timer is applied after the last stage of CFNA or SFNA treatment resulting from the Call Waiting Redirection feature for DID Call Waiting calls.

Distinctive Ringing/New Distinctive Ringing Call Forward No Answer

The existing Distinctive Ringing Call Forward No Answer feature is applied to calls from a Distinctive Ringing enabled trunk. If such an incoming call is receiving Call Waiting treatment on sets with Distinctive Ringing, Call Forward No Answer (CFNA), and the Call Waiting Redirection feature enabled, the DFNA timer is applied to the call instead of the CFNA timer. The Call Waiting warning tone, if enabled, is not changed by Distinctive Ringing. If that call is not answered before the expiration of the DFNA timer, CFNA treatment is given via the Call Waiting Redirection feature.

Forward No Answer Call Waiting Direct Inward Dialing

With the Call Waiting Redirection feature also enabled, the Call Waiting Redirection feature takes precedence over Forward No Answer Call Waiting Direct Inward Dialing (FCWD). The existing CFNA also takes precedence over the existing Attendant Recall of Call Waiting calls. Since the Call Waiting Redirection feature applies CFNA treatment to a Call Waiting call while the FCWD feature applies an attendant recall timer, the Call Waiting Redirection feature also has precedence over the FCWD timer.

Hunting

If Call Forward and Hunt by Call Type (CFCT) is enabled with Call Forward No Answer and Call Waiting Redirection, “no answer” internal calls receiving Call Waiting treatment are routed for CFNA treatment to the Flexible CFNA DN (FDN) or Hunt DN, and “no answer” external calls are routed for CFNA treatment to the External Flexible CFNA DN (EFD) or External Hunt DN (EHT).

Internal or Station-to-Station Call Waiting

The option selected for Call Waiting Redirection treatment also applies to calls given Internal Call Waiting treatment.

Meridian Mail Voice Mailbox Administration

Unanswered calls given Call Waiting treatment may now be allowed to forward to Voice Mail through the activation of the Call Waiting Redirection feature. The greeting given to the caller is for a “no answer” condition.

Message Center

Unanswered calls given Call Waiting treatment may now be allowed by the Call Waiting Redirection feature to be forwarded to a CFNA DN which may be a Message Center. The call redirection reason is “no answer”.

Message Waiting

Message Waiting has precedence over CFNA and Attendant Recall for attendant-extended calls. Unanswered calls given Call Waiting treatment are forwarded to the Flexible CFNA DN by the Call Waiting Redirection feature.

Multi-Party Operations***Recovery on Misoperation of Call Transfer – Call Transfer with Ring No Answer (RGNA)***

If the transferring party goes on-hook to complete the Call Transfer (i.e., blind transfer) before the “transferred to” or called party answers the Call Waiting call, an RGNA Mis-operation of Call Transfer is detected by Multi-Party Operations (MPO).

With the Call Waiting Redirection feature enabled, if the blind transfer completes after the CFNA timer applied by Call Waiting Redirection has expired, there is no interaction as the Call Waiting Redirection feature is done and has already redirected the unanswered Call Waiting call to the CFNA DN.

If the blind transfer completes before the Call Waiting Redirection CFNA timer expires and the RGNA option is defined to be:

- 1 Standard (STD, that is, operation as it was prior to introduction of MPO), there is no interaction, as Call Waiting Redirection will redirect the unanswered Call Waiting call when the CFNA timer expires.
- 2 Non-STD (that is, ATN, DIS, OVF, AAR, or DAR), the RGNA option has precedence over CFNA and thus has priority over Call Waiting Redirection’s CFNA treatment.

Recovery on Misoperation of Call Transfer – Misoperation of Call Transfer for All Other Cases

This type of misoperation occurs when the transferring party attempts to complete the transfer in several other non-RGNA scenarios. There is no interaction with these Multi-Party Operations scenarios and the Call Waiting Redirection feature.

Multiple Appearance Directory Number

The Call Waiting Redirection feature applies to unanswered Call Waiting calls which apply to single appearance DN's and primary appearance DN's of Multiple Appearance.

Multiple Appearance Directory Number Redirection Prime

If the Multiple Appearance Directory Number Redirection Prime (MARP) feature is activated, the Call Forward No Answer (CFNA) treatment given by Call Waiting Redirection for an unanswered Call Waiting call follows the MARP feature for CFNA treatment of calls to an idle DN.

Network Call Forward No Answer

Existing Network CFNA treatment is applied to calls receiving Call Waiting treatment on sets with CFNA and the Call Waiting Redirection feature enabled if the Call Waiting call is not answered before the expiration of the CFNA timer and the CFNA DN is on another node.

Network Call Redirection

Incoming calls receiving Call Waiting Redirection treatment can be redirected over the network only if the trunk-to-trunk connection is already supported per the existing Network Call Redirection feature.

Night Restriction Classes of Service

The Call Waiting Redirection feature applies to unanswered calls given Call Waiting treatment when the Night Restriction Classes of Service feature allows Call Waiting.

Night Service

Night Service Enhancements

Night Service has the same interaction with the Call Waiting Redirection feature as attendant-extended calls. Since the Call Waiting Redirection feature applies CFNA treatment to a Call Waiting call, the Call Waiting Redirection feature also has precedence over the Call Waiting recall timer.

Feature packaging

Call Waiting Redirection is included in base X11 system software.

Feature implementation

LD 15 – Configure the CFNA treatment, the number of ringing cycles for CFNA, and the Call Waiting Redirection option.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	RDR	Release 21 gate opener.
CUST	xx	Customer number.
- OPT	CWRA	Call Waiting Redirection Allowed. Allow Call Forward No Answer treatment for unanswered Call Waiting calls on a DN.
...		
FNAD	(HNT) ATT NO FDN	CFNA treatment for DID calls.
FNAT	(HNT) ATT NO FDN	CFNA treatment for internal non-Direct Inward Dialing calls.
FNAL	(HNT) ATT NO FDN	CFNA treatment for calls when Call Waiting Redirection is enabled.
...		

CFN0	1-(4)-15	CFNA timers; number of normal ringing cycles for CFNA Options 0, 1, and 2.
CFN1	1-(4)-15	
CFN2	1-(4)-15	
DFN0	1-(4)-15	Distinctive Ringing CFNA timers; number of distinctive ringing cycles for CFNA Options 0, 1, and 2.
DFN1	1-(4)-15	
DFN2	1-(4)-15	

LD 10 – Configure Call Waiting, and Call Forward No Answer for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. Terminal Number for the Option 11.
HUNT	xxx..x	Hunt DN. If the Call Forward No Answer treatments set up in LD 15 are set to HNT, the Hunt DN should be configured.
CLS	(CWD) CWA	Call Waiting external (denied) allowed.
	(SWD) SWA	Internal (Station-to-Station) Call Waiting (denied) allowed. If SWA is defined, CWA must also be defined.
	(WTA) WTD	Warning tone (allowed) denied.
	(FND) FNA	Call Forward No Answer (denied) allowed.
	FBA	Call Forward Busy Allowed. For customers with the United Kingdom (UK) package 190 configured, CLS must be set to FBA for calls over DASS/DPNSS trunks.
RCO	(0)-2	Ringing cycle option for Call Forward No Answer. Prompted when CLS = FNA, or MWA (or both). RCO must be set to a value other than 0 for Call Waiting Redirection to operate.
FTR	aaaa	Enter the feature and related data.
	FDN xxx ..x	Flexible CFNA DN. If the CFNA treatments set up in LD 15 are set to FDN, the Flexible CFNA DN should be configured.

LD 11 – Configure Call Waiting, and Call Forward No Answer for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, and 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
FDN	xxx..x	Flexible CFNA DN. If the Call Forward No Answer treatments set up in LD 15 are set to FDN, the Flexible CFNA DN should be configured.
CLS	(SWD) SWA	Internal (Station-to-Station) Call Waiting (denied) allowed. SWA does not need to exist to have external Call Waiting.
	(WTA) WTD	Warning tone (allowed) denied.
	(FND) FNA	Call Forward No Answer (denied) allowed.
	FBA	Call Forward Busy Allowed. For customers with the United Kingdom (UK) package 190 configured, CLS must be set to FBA for calls over DASS/DPNSS trunks.
RCO	(0)-2	Ring cycle option for Call Forward No Answer. Prompted when CLS = FNA, or MWA (or both). RCO must be set to a value other than 0 for Call Waiting Redirection to operate.
HUNT	xxx..x	Hunt DN. If the Call Forward No Answer treatments set up in LD 15 are set to HNT, the Hunt DN should be configured.
KEY	xx CWT	xx = key number. Add a Call Waiting key (the M3000 must use key 24).

Feature operation

No specific operating procedures are required to use this feature.

Called Party Disconnect Control

Called Party Disconnect Control allows Meridian 1 system to control the disconnecting of calls on Central Office (CO), Foreign Exchange (FX), Common Control Switching Arrangement (CCSA), Direct Inward Dialing (DID), TIE, Wide Area telephone Service (WATS), modem, and Centralized Automatic Message Accounting (CAMA) trunks. The trunk route data block has been modified so that a route can be specified for Called Party Disconnect Control.

With Called Party Disconnect Control, an incoming trunk call answered within Meridian 1 is not disconnected until the Meridian 1 end goes on-hook. If the calling party goes on-hook, the connection is held, allowing the call to be traced in emergency situations. If the calling party goes off-hook again, the call is not reestablished.

Operating parameters

An incoming call on a trunk route with Called Party Disconnect Control allowed can be transferred to another telephone within the Meridian 1, but cannot be transferred to a trunk.

An incoming call with Called Party Disconnect Control can be forwarded to another telephone, but not to another trunk.

Tandem trunk connections are not allowed on incoming calls on trunks with Called Party Disconnect Control allowed.

If Barge-In or Busy Verify is applied to trunks with Called Party Disconnect allowed, the trunk is disconnected.

Force disconnect, through service change and maintenance, overrides Called Party Disconnect Control.

Feature interactions

Automatic Answerback

Incoming calls on a trunk with Called Party Disconnect Control allowed that terminate on a telephone with Handsfree Answerback are answered automatically. They are not disconnected automatically, however, when the calling party goes on-hook.

Conference

Trunks with Called Party Disconnect Control allowed are treated as trunks without disconnect supervision when conferenced.

Digital Trunk Interface (DTI) – Commonwealth of Independent States (CIS)

Called Party Disconnect Control may not be used in the CIS market because of its signaling requirements.

Malicious Call Traced - Enhanced

Prior to this feature, the Called Party Control (CDPC) option was not supported for conference calls. The CDPC option is now supported if the conference contains exactly one recording trunk, one MCT activating party and one other trunk. This is done to make the recorder transparent to the user. The CDPC option remains unsupported for all other conference calls.

Meridian 911

The Called Party Disconnect (CPDC) feature is used to retain a 911 trunk when a 911 call is disconnected by the caller. No modification to the feature is required for Meridian 911, except lifting the CPDC and Automatic Call Distribution (ACD) NCFW limitation. 911 Calls, arriving via trunks with CPDC defined, will be allowed to NCFW, unlike non-911 ACD calls.

Meridian 911 - Call Abandon

There is no interaction with M911 Call Abandon and Called Party Disconnect Control.

Periodic Clearing Enhancement

Called Party Disconnect Control can exist on the same system and function on the same route, but is not to be used in conjunction with Periodic Clearing.

Periodic Clearing on RAN, Meridian Mail, ACD and Music

This feature enhancement is not supported if used together with Toll Operator Break-In.

Feature packaging

Called Party Disconnect Control is included in base X11 system software.

Feature implementation

LD 16 – Define Called Party Disconnect Control for a trunk route.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB	Customer Data Block.
CUST	xx	Customer number.
CNTL	(NO) YES	(Do not) change the controls or timers.
...		
CPDC	(NO) YES	(Deny) allow Called Party Disconnect Control for the trunk route.

Feature operation

No specific operating procedures are required to use this feature.

Called Party Control on Internal Calls

The Called Party Control on Internal Calls (CPCI) feature allows the called party with Class of Service Malicious Call Trace Allowed to activate Malicious Call Trace (MCT) even after the calling party goes on-hook. When enabled, the calling party is prevented from releasing a call until the called party has initially released. If the calling party goes on hook, the call is put on hold and both parties are given call hold treatment. When the called party activates the call trace request, the calling party's information is printed in the call trace record.

This feature builds on the capabilities of the existing Called Party Disconnect Control (CPDC) and Malicious Call Trace (MCT) features. Called Party Control on Internal Calls is applicable on set to set calls and can be activated during or after a malicious call has occurred.

Operating parameters

The feature is applicable to Meridian 1 Options 11C, 51C, 61C, 81 and 81C systems.

This feature is designed for stand alone application only and is not supported across a network. On a set to set call, the calling and the called party must belong to the same customer on the same Meridian 1.

Called Party Control on Internal Calls (CPCI) is not supported on ISDN BRI sets.

If an Attendant Console is the calling party and involved in a call with a set, the CPCI feature functionality is not provided to the call.

The CPCI feature is not supported with features such as Attendant Recall, Override, Call Park and Privacy Release.

If the Meridian 1 initializes during an established call, the call remains established. Following initialization, the calling party can successfully release from a connected call prior to the called party releasing.

For this feature, the called party must have a Malicious Call Trace Allowed (MCTA) Class of Service configured in the Customer Data Block (LD 15).

The existing limitations of Malicious Call Trace apply to this feature. When MCT is requested, the information is printed in the call trace record.

If the called party does not release the connection, then the calling party remains established until the called party releases.

Feature interactions

Call Hold, Deluxe

The calling party and called party can put either party on hold. However, the calling party cannot release the call while the called party is on hold. The called party is permitted to release the call.

Held Call Clearing

With Called Party Control on Internal Call enabled, a call on hold is not cleared when the calling party releases. This occurs whether or not the Held Call Clearing feature has been activated.

Feature packaging

Called Party Control on Internal Calls is Called Party Control on Internal Calls (CPCI) package 310. Malicious Call Trace (MCT) package 107 is also required.

Feature implementation

LD 15 – Configure Called Party Control on Internal Calls in Customer Data Block.

Prompt	Response	Description
REQ:	CHG	Change existing data.
TYPE:	FTR	Change Features and options.
CUST	xx	Customer number.
...		
- MCDC	YES	Malicious Call DN/ CLID printing allowed.
CPCI	YES	Called Party Control on Internal Calls allowed. NO = Called Party Control on Internal Calls denied.

LD 57– Configure Malicious Call Trace Flexible Feature Code.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	FFC	Flexible Feature Code data block.
CUST	xx	Customer number.
CODE	MTRC	Malicious Call Trace Flexible Feature Code.
MTRC	xxxx	Enter Flexible Feature Code.

LD 10 – Enable Malicious Call Trace on Analog (500/2500 type) sets.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	500	Analog Set Type.
TN	l s c u c u	Terminal Number. For Option 11C.
CUST	xx	Customer number.
...		
CLS	MCTA	Malicious Call Trace allowed. MCTD = Malicious Call Trace denied.

LD 11 – Enable Malicious Call Trace on Meridian 1 proprietary sets.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616 or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
CUST	xx	Customer number.
...		
CLS	MCTA	Malicious Call Trace allowed. MCTD = Malicious Call Trace denied.
KEY	xxx TRC	Key Number, Malicious Call Trace.

Note: For information on the implementation of the Malicious Call Trace feature, refer to the Malicious Call Trace module in this publication.

Feature operation

Feature operation is described in the following scenarios.

Simple Call - Meridian 1 Proprietary Sets

Set A, the calling party, initiates a call to Set B, the called party. Set B has Class of Service Malicious Call Trace Allowed (MCTA) configured. With Called Party Control on Internal Calls (CPCI) activated, Set B can activate Malicious Call Trace even after Set A has gone on-hook. This operation is possible because Set A is not idled until Set B has gone on-hook. Depending on the type of telephone, CPCI activation is done by completing the following:

- 1** Enter SPRE code and "83" access code;
- 2** Dial Malicious Call Trace (MCT) Flexible Feature Code (FFC); or
- 3** Activate Call Trace key.

With Called Party Control on Internal Calls, Set B can activate the Malicious Call Trace feature during an active call between Set A and Set B as well as after Set A has gone on-hook. Set A is not idled until Set B goes on-hook. Prior to Release 22, MCT could not be activated once the calling party went on-hook.

Simple Call - Analog (500/2500 type) Sets

- 1** Flash the switchhook. A special dial tone is heard that signifies the call is on hold.
- 2** Enter the SPRE code and "83" access code.
- 3** Dial the Malicious Call Trace Flexible Feature Code.
- 4** Go on-hook.

Conference Call

When the calling party and the called party both are involved in a conference call then the following operation is observed:

- 1 A party that called a set with CLS MCTA is only allowed to release if the called party has gone on hook and no other conferee has CLS MCTA or all remaining conferees were originators of a CPCI call.
- 2 In a three party conference between the called party, calling party and the recorder then the recorder is not considered as a conferee. The recorder is treated as a simple call for called party control on internal calls feature.
- 3 In a set to set call, if the called party establishes a conference with a trunk then the called party control on internal calls feature functionality is provided as long as the last called party (with CLS configured as MCTA) which goes on hook is a set rather than a trunk.

Transfer Call

If calling party and the called party are both involved in a simple call and either party tries to transfer the call to another set then the following operation is observed:

- 1 If the called party in a CPCI call attempts to transfer the call to a set with CLS MCTA, it is not allowed to complete its transfer.
- 2 If the called party transfers the call across the network then the called party is allowed to complete its transfer across the network and the transferred to party does not have any control on the calling party.
- 3 If the calling party in a CPCI call attempts to transfer the call to another set, it is not allowed to complete its transfer regardless of that set's Class of Service.

Call on Hold

If calling party and the called party both are involved in a simple call and either party tries to put the call on hold then the following operation is observed:

- 1 If the calling party tries to release the call then the calling party is not allowed to release from the call.
- 2 If the called party tries to release the call then the called party is allowed to release from the call.

Calling Party Name Display Denied

This enhancement to the Calling Party Name Display feature allows a customer to define on an originating set whether or not to allow the display of the calling and called party name and/or digits on the terminating set. This option can be defined individually for each customer set, and applies to all Meridian telephone types. The display of digits is controlled by “digit display allowed on other set” (DIGA) or “digit display denied on other set” (DIGD) Class of Service. The name display is controlled by the “name display allowed on other set” (NAMA) or “name display denied on other set” (NAMD) Class of Service.

The following scenarios are possible, where set A is the originating set and set B is the terminating set. DIGA “Allowed” and “Denied” indicates whether or not the called party digits display are allowed or denied on the set. If the display of digits is denied, the digits are replaced by four dashes (for an internal call) or seven dashes (for an external call). If the name display is denied (that is, NAMD), the name is replaced by “XXXX”.

In the following example, originating set A has DIGA and NAMA Class of Service, and terminating set B also has DIGA and NAMA Class of Service. During an established call, the respective displays would be as follows:

Figure 11
Display of Calling Party Denied example

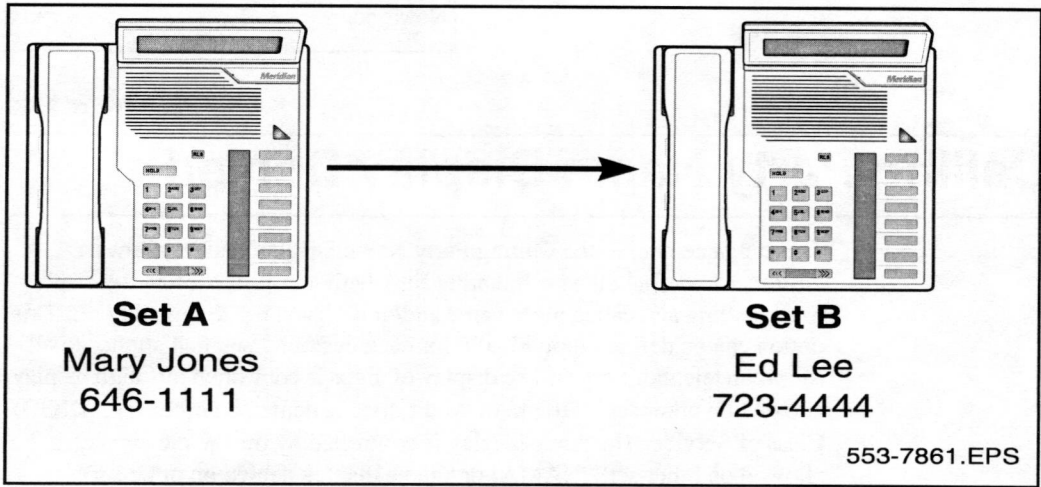


Figure 12
Example of displays when the originating and terminating sets both have Class of Service set to DIGA and NAMA

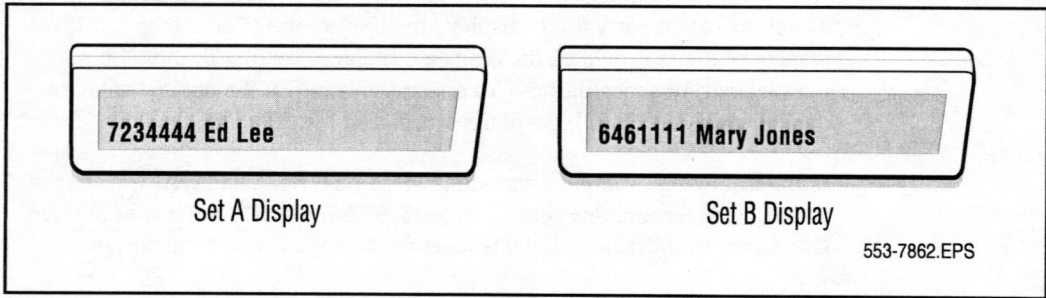
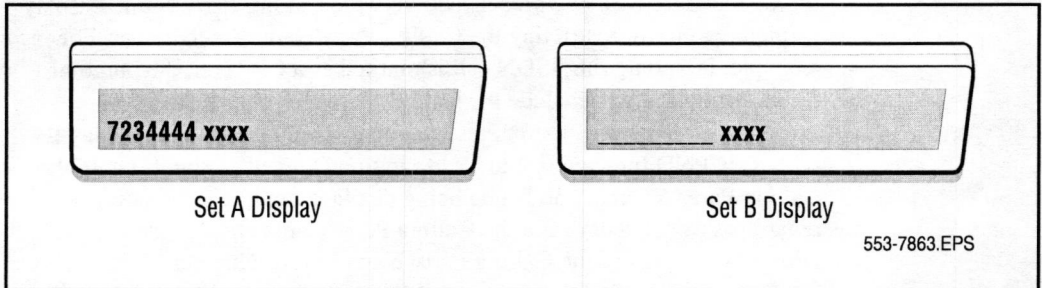


Figure 13

Example of displays when the originating and terminating sets both have Class of Service set to DIGD and NAMD



If set A has DIGD and NAMD Class of Service, and set B also has DIGD and NAMD Class of Service, the displays would be as follows (keep in mind that set A displays the dialed digits even though set B has DIGD Class of Service):

Operating parameters

This enhancement pertains to both standalone and network environments.

The called party digits are displayed on the originating set, regardless of the Class of Service of the terminating set.

Feature interactions

Attendant Consoles

The Calling Party Name Display Denied enhancement cannot be applied to Attendant Consoles.

Call Forward Call Transfer

During a Call Forward or Call Transfer, the calling party digits and forwarding/transferring party digits are displayed on the terminating set. This display is allowed or denied depending on the Class of Service of the calling set and the forwarding/transferring set. The name of the forwarding/transferring set is not displayed on the calling and terminating set.

Calling Party Privacy

For outgoing calls, if the Calling Party Privacy (CPP) package is equipped, the CPP feature will take precedence over the Calling Party Name Display Denied feature for restricting the Calling Party Name and Number. For example, if an outgoing ISDN call is marked as a CPP call, the outgoing SETUP message will include the Calling Party Number IE with the Presentation Indicator set to "Presentation Restricted" and the Display IE with the CPND Indicator set to "Presentation Denied", to inhibit both the Calling Party Number and Name being displayed on the terminating set, regardless of whether or not the Calling Party Name Display Denied feature allows the display of the Calling Party Name and/or Number.

The Calling Party Name Display Denied feature takes precedence over the CPP feature for displaying an incoming ISDN call. If International Supplementary Features (SUPP) package 131 is equipped, an incoming ISDN call with the Presentation Indicator set to "Presentation Restricted" in the Calling Party Number IE or the CPND Indicator set to "Presentation Denied" in the Display IE will be marked as a CPP call, and will display "ACOD + Member" or "XXXX" as for the Calling Party Name Display Denied feature.

Conference

Call Party Name Display, and thus the Calling Party Name Display Denied enhancement, do not apply to conference calls.

ISDN QSIG Name Display

Call Party Name Display and Calling Party Name Display Denied interact with ISDN QSIG Name Display, depending on the Name Display configuration in LD 16 for BRI or LD 17 for PRI. When a QSIG network is interacting with an MCDN network providing network capability ND3, both the MCDN and QSIG Name Display feature function on the same level.

Multiple Appearance Directory Numbers

For a ringing call to a Multiple Appearance DN, the name on the calling set display can be suppressed by configuring any of the Terminal Numbers with NAMD Class of Service. The digit display on the calling set cannot be suppressed – the called digits are displayed even though the Class of Service on any of the Terminal Numbers is DIGD. The called set display is subject to the Class of Service of the calling party. For an established call to a Multiple Appearance DN, the calling set display is subject to the Class of Service configured for the answering set. The answering set display only is subject to the Class of Service of the calling party – the displays of the other sets in the Multiple-appearance group are blank.

Office Data Administration System (ODAS)

Depending on the Class of Service of the originating set, the ODAS designator is displayed or replaced by Xs, up to the maximum number of characters that the designator may have.

Feature packaging

Calling Party Name Display Denied requires International Supplementary Features (SUPP) package 131.

Feature implementation

LD 10 – Respond to the CLS prompt as follows.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	500	Telephone type.
...		
CLS	(DDGA) DDGD (NAMA) NAMD	(Allow) deny DN to be displayed on other set. (Allow) deny name to displayed on other set.

LD 11 – Respond to the CLS prompt as follows.

Prompt	Response	Description
REQ	NEW	Add new data.
	CHG	Change existing data.
TYPE	aaaa	Telephone type.
...		
CLS	(DDGA) DDGD	(Allow) deny DN to be displayed on other set.
	(NAMA) NAMD	(Allow) deny name to be displayed on other set.

Feature operation

No specific operating procedures are required to use this feature.

Calling Party Privacy

The Calling Party Privacy (CPP) feature enables the Meridian 1 to support the blocking of a Calling Party's Number and Name from being displayed at the terminating set on a per-call basis. Users can dial a Calling Party Privacy code (for example, *67 from a Meridian 1 proprietary set or 1167 from an analog (500/2500 type) set) to prevent their telephone number and name from being displayed on a receiving telephone across the Public Switched Telephone Network (PSTN). Internal calls within the Meridian 1 have originating numbers or names displayed, even though the originating call has requested privacy.

This feature also allows a per-line blocking Class of Service to be programmed for station sets for public network calls. This relieves the user from having to dial the Flexible Feature Code (FFC) for every call, but in every other way is equivalent to the per-call blocking.

Depending on the trunk route configuration, public network numbers which tandem over the Meridian 1 Meridian Customer Defined Network (MCDN), prior to exiting to the PSTN, pass the Privacy Indicator along, if it is dialed by the originator. This means that users can be sure that their privacy wishes are respected whether the call exits directly at the originating node, or is given alternate routing through a private network. However, if private network nodes are connected by non-Integrated Services Digital Network (ISDN) Electronic Switched Network (ESN) trunks, the complexity of the signaling prevents the transmission of the Privacy Indicator. To compensate for this, outgoing Central Office (CO), Foreign Exchange (FEX), Wide Area Telephone Services (WATS), and Direct Inward Dialing (DID) trunks, can be configured to automatically generate a Privacy Indicator for calls received from incoming non-ISDN trunks.

A Privacy Indicator is used to signify that a call is a Calling Party Privacy call. For an outgoing non-Integrated Services Digital Network (ISDN) trunk call, the Privacy Indicator is defined in the outgoing trunk route as a digit string (for example, *67). No Privacy Indicator is expected for an incoming non-ISDN trunk call. For an ISDN call between two Meridian 1 switches, the Privacy Indicator is represented by setting the Presentation Indicator field to "Presentation Restricted" in the Calling Party Number Information Element (IE) and the Calling Party Name Display (CPND) Indicator to "Presentation Denied" in the Display IE. For an outgoing ISDN call to the Public Exchange/Central Office, the Privacy Indicator is represented by setting the Presentation Indicator field to "Presentation Restricted" in the Calling Party Number IE and excluding the Display IE with the CPND information. An incoming ISDN call is marked as a CPP call (that is, carries the Privacy Indicator) if the Presentation Indicator field is set to "Presentation Restricted" in the Calling Party IE or the CPND Indicator is set to "Presentation Denied" in the Display IE.

Operating parameters

The code dialed by the user can be flexibly defined; although, *67 is the typical code for North America. Multiple codes can be defined, allowing a different code (for example, 1167) to be used for rotary sets.

The code which is outpulsed on non-ISDN analog or digital trunks can also be flexibly defined on a per-route basis. Different codes can be programmed for routes which mix Digitone (DTN) and Dial Pulse (DIP) Classes of Service.

Frequently, the codes outpulsed on trunks are the same as those dialed from station sets. There is no reason, however, why they cannot be different.

A non-ISDN trunk route is not able to provision the CPP feature if Outpulsing of Asterisk and Octothorpe (OPAO) package 104 is equipped on the switch. During SYSLOAD, the CPP database is removed from the non-ISDN trunk routes if the OPAO package is equipped.

The CPP feature is not supported on Digital Private Network Signaling System #1 (DPNSS1), Digital Access Signaling System #2 (DASS2) or R2 Multifrequency Compelled Signaling gateways.

Central Office Trunk (COT), Foreign Exchange (FEX), Wide Area Telephone Service (WATS), and Direct Inward Dialing (DID) are the only trunk route types that can outpulse the Privacy Indicator for an outgoing non-ISDN call.

ISDN implementations include DSM-100/250, SL-100, AT&T4, AT&T5, TR-1268 (NI-2) and MCDN private networks, QSIG, EuroISDN and Basic Rate Interface (BRI) trunks.

CPP is not formally supported on the International ISDN PRI connectivities, since CPP is primarily a North American feature. However, existing Calling Line Identification (CLID)/Calling Line Identification Restriction (CLIR) operations continue to function.

The Privacy Indicator defined for a non-ISDN trunk route (dial pulse or digitone) consists of any arbitrary digit sequence (0-9) up to four digits in length. The asterisk "*" or octothorpe "#" is not allowed in the Privacy Indicator for an outgoing dial pulse trunk route. The asterisk is only allowed as the first digit of the Privacy Indicator (for example, *67) for an outgoing digitone trunk route. The octothorpe is not allowed in any Privacy Indicator on an outgoing digitone trunk route.

If a user requests privacy by dialing the Flexible Feature Code (FFC) defined for the CPP feature, and CPP is not provisioned in the outgoing trunk route, the call proceeds without carrying the Privacy Indicator.

No Privacy Indicator is expected to be received from the Public Exchange/Central Office on non-ISDN DID trunks. This would be treated as a misdial.

The CPP feature does not inhibit the Calling Party Number and Name from being displayed for an internal call within a local Meridian 1 customer group.

A common number defined for the Special Prefix (SPRE) code in the database is "1". Thus, "1167" will not be accepted as an FFC for CPP, due to the conflict with existing DNs. The technician should either change the SPRE code, or define a new FFC for CPP to be used by a rotary telephone.

Feature interactions

Autodial

An outgoing trunk call, initiated by pressing the Autodial key, carries the Privacy Indicator if the Calling Party Privacy (CPP) code, followed by the normal dialing sequence, is stored against the Autodial key. The CPP code is counted against the maximum number of digits (currently 23) stored against the Autodial key.

A user can also store the CPP code against the Autodial key. An outgoing CPP call can be initiated by pressing the Autodial key, followed by manually dialing the digits.

An outgoing CPP call can also be initiated by dialing the CPP code, followed by pressing the Autodial key against which the normal dialing sequence of digits is stored.

Automatic Redial

The calling party and called party have the same Calling Party Privacy considerations.

Automatic Call Distribution

A call placed by means of Enhanced Automatic Call Distribution (ACD) Routing, Enhanced Interflow, Enhanced Night Call Forward, Enhanced Network Routing, or Network ACD respects the CPP request of the originator.

Automatic Call Distribution MAX (ACD MAX)

The Calling Line Identification (CLID) is still included in ACD MAX reports, even if the caller has requested CPP.

Call Detail Recording

The current Call Detail Recording (CDR) records, which include the Calling Party Number, continue to do so even if the caller has requested CPP. The FFC for CPP dialed by the user is included in the dialed digits field when generating a CDR record.

An outgoing non-ISDN trunk call outpulsing the Privacy Indicator includes the Privacy Indicator in the outpulsed digits field when generating the CDR records if the outgoing non-ISDN trunk route has Outpulsed Digit Option (DPD) activated.

Call Forward All Types Hunt

If an incoming ISDN trunk call with the Privacy Indicator is forwarded, the Privacy Indicator is tandemed to the far end to inhibit the display of the Calling Party Name or Number, provided that the outgoing trunk route on the tandem node also has CPP provisioned.

If an incoming non-ISDN trunk call is forwarded to a trunk, the outgoing trunk call from the tandem node carries the Privacy Indicator if the outgoing trunk route on the tandem node has the TCPP option set.

The CPP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator is outpulsed to the terminating node to inhibit the number of the forwarding set (i.e., at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

The above scenario also applies to Hunt and Network Hunt.

Call Hold, Deluxe Call Hold, Permanent

When a user takes an incoming trunk call with the Privacy Indicator off of hold, no Calling Party Number or Name is displayed on the set.

Call Pickup

If an incoming trunk call with the Privacy Indicator is picked up locally, the display of the Calling Party Number and Name are not displayed on the terminating set.

Call Pickup Network Wide

If an incoming trunk call with the Privacy Indicator is picked up by a remote set (requesting party), the display of the Calling Party Number and Name are not displayed on the requesting set.

Call Transfer

If an incoming non-ISDN call is being transferred or an incoming ISDN call is transferred to a non-ISDN trunk, the Calling Party Name and Number is not passed to the terminating set. The CPP feature does not change this operation.

For cases where an incoming call with the Privacy Indicator is transferred over an MCDN trunk, or to a local station, the name and/or number of the originating party is not displayed on the set of the final terminating party.

Calling Line Identification Restriction (CLIR)

The Flexible Feature Code is not supported on BRI sets. Calling Party Privacy can only be requested by setting the soft key "ID PRES" (if it exists) to "Denied" or the "PRES" prompt to "NO" in Overlay 27. If the Calling Party Number IE with the Presentation Indicator set to "Presentation Allowed" is included in the SETUP message generated by the BRI terminal, this BRI terminal does not allow Calling Party Privacy, as the Presentation Indicator generated by the BRI terminal always overwrites the CLIR service option.

Call Party Name Display (CPND)

In current operations, If the International Supplementary Features (SUPP) package 131 is not equipped in the system, an incoming ISDN call with the Call Party Name Display (CPND) Indicator field set to "Presentation Denied" still displays the Calling Party Name. If package 131 is equipped in the system, the current operations inhibit the Calling Party Name for an incoming ISDN call with the CPND Indicator field set to "Presentation Denied".

The CPP feature inhibits the display of the Calling Party Name for an incoming ISDN call with the CPND Indicator field set to "Presentation Denied" if package 131 is not equipped.

Conference

The CPP feature passes the Privacy Indicator to the terminating set to inhibit the display of the Calling Party Name and Number if the Conference feature is used for the purpose of performing a transfer.

Calling Party Name Display Denied

For outgoing calls, if the CPP package is equipped, the CPP feature takes precedence over the Calling Party Name Display Denied feature for restricting the Calling Party Name and Number. For example, if an outgoing ISDN call is marked as a CPP call, the outgoing SETUP message includes the Calling Party Number IE with the Presentation Indicator set to "Presentation Restricted" and the Display IE with the CPND Indicator set to "Presentation Denied", to inhibit both the Calling Party Number and Name being displayed on the terminating set, regardless of whether or not the Calling Party Name Display Denied feature allows the display of the Calling Party Name and/or Number.

The Calling Party Name Display Denied feature takes precedence over the CPP feature for displaying an incoming ISDN call. If International Supplementary Features (SUPP) package 131 is equipped, an incoming ISDN call with the Presentation Indicator set to "Presentation Restricted" in the Calling Party Number IE is marked as a CPP call, and displays "ACOD + Member" or "XXXX", as for the Calling Party Name Display Denied feature.

Display Calling Party Denied

For internal conference calls, display information is not provided on any of the conferees' sets. When setting up a conference call, by conferencing one set at a time, the display on the conferee's set is in accordance with the Class of Service of the individual sets.

For network conference calls, display is provided. This is in accordance with the DPD Class of Service options of the individual sets.

EuroISDN Trunk - Network Side

If a number presentation for a call is blocked by the Calling Party Privacy feature, the CLID, sent over a EuroISDN Trunk - Network Side connectivity, has the presentation flagged as restricted.

Feature Group D

If an incoming Feature Group D (FGD) call terminates at a Meridian 1 switch locally, the received 10-digit Automatic Number Identification (ANI) is displayed on the terminating set if the Show ANI Digits on Terminal Displays (SHAN) field is set to "YES" in the FGD data block associated with the incoming trunk route. If the originator requests CPP, the end office does not send the 10-digit ANI to the PBX.

If an incoming FGD call is routed to another switch via ISDN Primary Rate Interface (PRI) or Integrated Service Link (ISL), the outgoing SETUP message includes the 10-digit ANI (if it exists) as the Calling Party Number with the Presentation Indicator set to "Presentation Restricted" if the outgoing trunk route has the TCPP option turned on. The TCPP option takes precedence over the SHAN field defined in the FGD data block associated with the incoming trunk route to restrict the 10-digit ANI display.

Hot Line

A Hot Line call carries the Privacy Indicator if the Calling Party Privacy (CPP) code, followed by the normal dialing sequence, is stored in the Hot Line DN. The CPP counts against the maximum number of digits (currently 31) allowed for the Hot Line DN.

Incoming Trunk Programmable CLID

If the incoming trunk route is a non-ISDN route, the billing number assigned by the incoming trunk route is passed to the Public Exchange/Central Office with the Presentation Indicator field set to "Presentation Restricted" if the outgoing ISDN trunk route has the TCPP prompt set to "YES". If the TCPP prompt is set to "NO", the Presentation Indicator is set to "Presentation Restricted" only if the BDSP (Billing Display) prompt in the incoming trunk route is set to "NO".

If the incoming trunk route is an ISDN route, the "Restricted" Presentation Indicator is tandemmed to the outgoing trunk route. If the Presentation Indicator is set to "Presentation Allowed" or no Calling Party Number IE is received in the incoming trunk route, the billing number assigned by the incoming trunk route is passed to the Public Exchange/Central Office with the Presentation Indicator field set to "Presentation Restricted", only if the incoming trunk route has the BDSP prompt set to "NO".

ISDN QSIG Name Display

Calling Party Privacy (CPP) takes precedence over the ISDN QSIG Name Display feature.

Last Number Redial

The Last Number Redial (LNR) feature stores the CPP code in the LNR data space, if the CPP code was included in the last number dialed by the user. Any subsequent outgoing redialed call sends the Privacy Indicator to the far end.

Malicious Call Trace

Incoming calls to stations having the Malicious Call Trace feature enabled continue to include the Terminal Number (TN) of the calling party in the Malicious Call Trace record, even if the caller has requested CPP.

Meridian Link

The CLID is still included in the Application Module Link (AML) messages sent to the Meridian Link Module, even if the call has requested CPP.

Meridian Mail

When an incoming ISDN call with the Privacy Indicator terminates on Meridian Mail, the Calling Party Name and Number is not passed to Meridian Mail to be recorded. When the called party retrieves the messages, no Calling Party Number or Name is played, and the called party is not able to initiate the Call Sender feature, since no CLID is recorded.

Calls placed by means of Through Dial are able to request privacy. These are calls where the person accessing Meridian Mail can dial 0 followed by any telephone number. The caller is able to dial the CPP code as part of the number following 0.

Meridian MAX

The CLID is still sent to the Meridian MAX, even if the caller has requested CPP.

Meridian 911

An incoming 911 call with ANI information always displays the ANI digits on the terminating set or passes the ANI information to the Meridian 911 application.

Network Message Services

An incoming trunk call with the Privacy Indicator does not display the Calling Party Name and Number on the Message Center operator's terminal.

Network Ring Again

A call placed by means of the Network Ring Again feature respects the CPP requested when the call was originally dialed.

Private Line Service

The Private Line Service feature outpulses the Privacy Indicator only if it is dialed by the originator. An asterisk is outpulsed to the far end only if it is an OPAO call, otherwise the asterisk signals a three-second pause.

R2MFC Calling Number Identification/Call Detail Recording Enhancements

If the Calling Line Identification (CLID) is received with presentation denied, it is not mapped to the Calling Number Identification (CNI). Instead, the CNI is composed of the CNI DN and the Trunk ID. Optionally, the CNI request may set to ECNI (the CNI End-of-CNI R2MFC level 1 forward signal).

Ring Again – Busy Trunk

A call automatically redialed by the Ring Again – Busy Trunk feature respects the CPP requested when the call was originally dialed.

Speed Call System Speed Call

An outgoing trunk call initiated by dialing the Speed Call code carries the Privacy Indicator if the CPP code followed by the normal dialing sequence is stored in the Speed Call Entry represented by the Speed Call code. The CPP code is counted against the maximum number of digits (currently 31) allowed per Speed Call list entry.

A user can also store the CPP code in the Speed Call Entry (or Speed Call key). An outgoing CPP call can then be initiated by dialing the Speed Call code (or pressing the Speed Call key), followed by manually dialing the digits.

However, existing Speed Call limitations do not allow a user to dial *67 (or anything else) before accessing a Speed Call list entry.

Stored Number Redial

During Stored Number Redial (SNR) programming, a user can store the CPP code followed by the normal dialing sequence in the SNR data space. Outgoing calls originated by the SNR feature sends the Privacy Indicator to the far end. The CPP code is counted against the maximum number of digits (currently 31) allowed by the SNR feature.

During an active call on a Meridian 1 proprietary telephone, the Stored Number Redial feature stores the CPP code in the SNR data space if the CPP code was included in the number dialed by the originator. The outgoing redialed calls send the Privacy Indicator to the far end.

Trunk Anti-Tromboning

An ISDN call that has had its trunks removed due to Trunk Anti-Tromboning operations, respect the CPP request of the originator.

Trunk Optimization Before Answer

An optimized call due to Trunk Optimization Before Answer respects the CPP requested by the originator.

Feature packaging

Calling Party Privacy (CPP) is package 301, which requires Flexible Feature Codes (FFC) package 139. Non-ISDN trunks must restrict the Outpulse Asterisk and Octothorpe (OPAO) package 104 to provision the CPP feature.

Feature implementation

If the CPP package is equipped in the Meridian 1 system, the following steps illustrate how to configure Calling Party Privacy.

LD 57 – Define the FFC for CPP Code. FFC package 139 is required for loading Overlay 57.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	FFC	Flexible Feature Code.
CUST	xx	Customer number.
FFCT	(NO) YES	Flexible Feature Confirmation Tone.
...		
CODE	CPP	FFC type to be altered. CPP entry is only allowed if the CPP package is equipped. <CR> means that no FFC types are prompted.
...		
CPP	(*67) nnnn	Calling Party Privacy code. CPP is prompted only if the CPP package is equipped. Any arbitrary digit sequence up to four digits can be specified. For Meridian 1 proprietary set, an "*" can be entered as the first digit. CPP will be prompted until a <CR> is entered.

LD 16 – Define Privacy Indicators.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	RDB	Route Data Block.
CUST	xx	Customer number.
TKTP	COT DID FEX WAT	Trunk Route Type.
...		
DTRK	YES	Digital trunk route.
DGTP	DTI DTI2	Digital trunk type.
ISDN	YES	ISDN PRI option.
...		
ACOD	nnnn	Trunk Access Code.
CPP	YES	Calling Party Privacy. YES = This trunk route is enabled for the recognition of the Calling Party Privacy feature. CPP is only prompted if the following conditions are met: the CPP package is equipped, the OPAO package is not equipped, OGT (outgoing) or IAO (incoming and outgoing) trunk, non ISDN option and trunk route type is COT/DID/FEX/WAT. The default value for the CPP prompt is NO.
TCPP	(NO) YES	CPP for an incoming trunk call tandemmed to this trunk route. YES = An incoming non-ISDN trunk call tandemmed to this trunk route will carry the Privacy Indicator. The default value for the TCPP is NO.

- DTPI	nnnn	<p>Privacy Indicator for a digitone trunk. DTPI is prompted only if CPP is set to "YES" and the trunk route is non-ISDN. If CPP is changed from NO to YES, the default is *67.</p> <p>Any arbitrary digit sequence (0-9) up to four digits can be specified. An asterisk "*" is allowed to be the first digit only if the outgoing call goes to a Public Network.</p>
- DPPI	nnnn	<p>Privacy Indicator for a dial pulse trunk. DPPI is prompted only if CPP is set to "YES" and the trunk route is non-ISDN. If CPP is changed from NO to YES, the default is 1167.</p> <p>Any arbitrary digit sequence (0-9) up to four digits can be specified.</p>

LD 10/11 – Activate Calling Party per-line blocking.

Prompt	Response	Description
REQ	NEW	Add new data.
	CHG	Change existing data.
TYPE	nnnn	Type of telephone.
TN	l s c u	Terminal Number.
	c u	Terminal Number for the Option 11.
...		
CLS	CLBA	<p>Activate Calling Party per-line blocking.</p> <p>Enter CLBD to deactivate Calling Party per-line blocking (default).</p> <p>Note: CLBA Class of Service activates Calling Party per-line blocking. CLBD Class of Service deactivates Calling Party per-line blocking; however, the user can still request Calling Party Privacy by dialing the CPP code.</p>

Feature operation

Any outgoing call initiated from a set with Calling Party per-line blocking (CLBA) Class of Service requests Calling Party Privacy.

If the originating party has CLBD Class of Service, the Calling Party Privacy feature can only be activated on a per-call basis. If standard dialing procedures are used, no CPP is requested, and the call proceeds as usual. The user must do one of the following to request CPP:

- Precede any dialing of a call with a new Flexible Feature Code defined for the CPP feature. This operates from all telephone types, except BRI sets.
- The Flexible Feature Code is not supported on BRI sets; however, Calling Party Privacy can be requested by setting the softkey “ID PRES” (if it exists) to the “Denied” state or the “PRES” prompt to “NO” in Overlay 27.

Note: If the Calling Party Number IE with the Presentation Indicator set to “Presentation Allowed” is included in the SETUP message generated by the BRI terminal, this BRI terminal does not allow Calling Party Privacy, as the Presentation Indicator generated by the BRI terminal always overwrites the CLIR service option.

Introduced in X11 Release:	All
Networking:	Yes

Camp-On

Camp-On routes one additional external call to a busy Directory Number (DN). When the attendant extends a call to a busy DN, the external call is camped on to the telephone. If the Class of Service allows a warning tone, the user hears a tone indicating that a call is camped on. If the user frees the line within a specified time, the camped-on call rings the telephone automatically. If not, the call returns to the attendant as a recall.

Camp-On Tone is allowed or denied on a per-customer basis. The time a camped-on call waits is defined in LD 15 from 0 to 510 seconds, in multiples of two seconds. The default is 30 seconds.

Operating parameters

Camp-On applies to attendant-extended calls only. If the attendant hears a busy tone, another call has already been camped on to the busy telephone.

Feature interactions

Attendant Blocking of Directory Number

Camp-on will be denied for a DN that is blocked due to the Attendant Blocking of DN feature.

Attendant Break-In

If the destination DN has a camped-on incoming trunk call, the attendant cannot extend the urgent incoming call as a Camp-On call.

Call Forward All Calls

Call Forward, Internal Call

Call Forward All Calls and Internal Call Forward take precedence over Camp-On.

Call Forward/Hunt Override Via Flexible Feature Code

When a busy set is encountered, it is possible to Camp-on to the set, even if Call Forward/Hunt Override Via Flexible Feature Code has been activated

Call Forward No Answer

When the Call Forward No Answer timer expires for a ringing camped-on call, the call is given Attendant Recall treatment instead of Call Forward No Answer treatment.

Call Park Network Wide

When an attendant attempts to extend a call to a busy station across the network and the busy station returns a Camp-On allow signal, an attendant has the option of camping on a call or continuing with Network Call Park.

Call Park on Unsupervised Trunks

A Disconnect Timer applies to camped-on calls on all trunks on the route. All answered calls in the camped-on state will be disconnected if left in that state for an extended period.

Call Waiting

Call Waiting Redirection

Camp-On and Call Waiting are mutually exclusive. If a Call Waiting Class of Service or key is defined, Camp-On cannot be provided.

Camp-On, Station

With Station Camp-On, any internal station can camp an external call on to another internal station that is busy. Prior to the introduction of this feature, attendants were the only parties that could camp calls on to busy internal stations. The term internal station includes stations on other nodes within a Meridian Customer Defined Network (MCDN). For more information, see the Camp-On, Station feature description.

China Number 1 Signaling - Called Party Control

A local attendant cannot Camp-on a call to an analog (500/2500 type) set that is on an outgoing trunk call that follows Called Party Control.

Flexible Feature Code Boss Secretarial Filtering

When an attendant is attempting to Camp-on a call to a boss set with filtering active, the call is routed to the secretary set, if the filtering is active for all calls. If filtering is active for external calls only, the call is routed to the secretary set if the call is an external call.

Flexible Voice/Data Terminal Number

Camp-On is not supported on data calls to a dynamic voice/ data TN.

Camp On is supported for voice calls to dynamic voice/ data TN. However, no tone is inserted during a Camp On attempt if the Terminal Number is in a busy data mode.

Generic XFCOT Software Support

The Camp-On feature allows an attendant to route one additional call to a busy DN so it can be rung when it becomes free. If the busy DN is not free after a customer-defined time, the call is recalled to the attendant.

A call from a loopstart disconnect supervised or unsupervised loopstart trunk can be camped on. If a caller on an unsupervised loopstart trunk disconnects while the call is camped on, it is detected when the call is recalled or answered.

Caller disconnection during Camp-On operation is detected by a disconnect-supervised loopstart trunk on an XFCOT card and the camped on call is dropped.

Group Hunt

Camping an incoming call on to a Pilot DN is not be supported

Group Hunting Queuing Limitation

No Camp-on tone is provided for Group Hunting Queuing Limitation.

Hunting

Hunting takes precedence over Camp-On.

Idle Extension Notification

When an extension is blocked for receiving calls due to the Idle Extension Notification feature, Camp-on is not possible.

Multi-Party Operations

Camp-on to a controlling party DN which is involved in a Consultation connection is not permitted. However, Camp-on is allowed at non-controlling parties DN's which are involved in the Consultation connection.

Multi-Party Operations Enhancements

Camp-on is allowed on a party receiving Patience Tone. Camp-on tone and is not applied to the party during Patience tone. However, Camp-on tone and is applied when the speechpath has been reestablished

Multi-Party Operations – Three-Party Service

While Camp-On is allowed to the party receiving the patience tone, the Camp-On tone is not applied to the party during the patience tone. The Camp-On tone is applied, however, when the speech path has been reestablished.

On Hold on Loudspeaker

Camp-On can be applied to a busy loudspeaker DN.

Override - Forced Camp-On and Priority Override Override, Enhanced

Station-to-Station Camp-On and Attendant Camp-On are not affected by Forced Camp-On or Priority Override. The new Classes of Service (Camp-On From Another Telephone Allowed [CPFA], Camp-On From Another Telephone Denied [CPFD], Camp-On To Another Telephone Allowed [CPTA], and Camp-On To Another Telephone Denied [CPTD]) affect only Forced Camp-On. The Station Camp-On (SCMP) package (121) is required to return busy tone instead of ringback tone to the party camping on.

Periodic Pulse Metering

Metered calls camped-on to a busy station by an attendant are charged against the attendant until the call is answered and the attendant releases.

Source Included when Attendant Dials

The source remains included while the attendant dials the destination.

Uninterrupted Line Connections

Warning Tone

Class of Service with warning tone denied allows a call to be camped on, but with no warning tone.

Feature packaging

Camp-On is included in base X11 system software.

Feature implementation

LD 15 – Enable/disable Camp-On tone for a customer.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB FTR	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- OPT	(CTD) CTA	(Disable) enable Camp-On tone for the customer.
TYPE	TIM	Release 21 gate opener.
- RTIM	xx yy zz	Set recall timers. yy = Camp-On recall timer, response is 0-(30)-510.
...		
TYPE	FTR	Release 21 gate opener.
- STCB	(NO) YES	Station Camp-On Busy allowed.
- NSCP	(NO) YES	Network Station Camp-On to sets on this node allowed.

LD 10 – Allow/deny warning tone Class of Service for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	WTA (WTD)	Allow (deny) warning tone.

LD 11 – Allow/deny warning tone Class of Service for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	aaaa	Telephone type, where: aaaa = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	WTA (WTD)	Allow (deny) warning tone.

Feature operation

To camp on an external call to a busy destination, the attendant follows these steps:

- Press **Rls**.

The call is camped on to the extension. If you hear a busy tone, a call is already camped on the extension.

If the call is not answered within a specified time, it recalls to the attendant. Both the Source and Destination indicators flash until the recall is answered. The call can be camped on again or released.

To answer a camped-on call, the subscriber follows these steps:

- 1 When you hear a short beep indicating a camped-on call, hang up or press **Rls**.
- 2 When the telephone rings, lift the handset.
You are connected to the camped-on call.

Introduced in X11 Release:	20
Networking:	No

Camp-On, Forced

Forced Camp-On differs from normal Camp-On in that both internal and external calls can be camped on, rather than just external calls as with the Camp-On feature. The Forced Camp-On can be automatic or manual. The manual operation requires the use of the Enhanced Override (EOVR) key or Flexible Feature Code (FFC).

Forced Camp-On can be used as a feature by itself or in conjunction with Priority Override. The combination of the two features is referred to as Enhanced Override (EOVR).

For manual Forced Camp-On, an analog (500/2500 type) telephone user has to dial the EOVR Flexible Feature Code (FFC), while a Meridian 1 proprietary telephone user has to use the EOVR key.

A second operation of the EOVR key or FFC executes Enhanced Override.

Forced Camp-On is similar to station-to-station Camp-On except that Forced Camp-On can be done with either no call on hold or an external or internal call on hold. It can be done automatically or manually; whether it is automatic or manual is determined by the response to the Automatic Forced Camp-On (AFCO) prompt in LD 15.

For manual operation, once a busy telephone has been reached, the first depression of the EOVR key or the first dialing of the EOVR FFC attempts Forced Camp-On. If successful, Forced Camp-On introduces Camp-On tone into the connection. If unsuccessful, overflow (fast busy) tone is returned to the party attempting the Forced Camp-On.

For Forced Camp-On to be attempted, all other methods of call termination must have been tried, the last of which was Camp-On. If station-to-station Camp-On or automatic Forced Camp-On has occurred, or Forced Camp-On has been excluded by the new telephone options, then the first depression of the EOVR key or dialing of the EOVR FFC executes Enhanced Override. If, however, Forced Camp-On is denied due to existing Camp-On restrictions, Enhanced Override is also denied.

Operating parameters

The Flexible Feature Codes (FFC) package (139) must be equipped for Forced Camp-On and Priority Override to be available from analog (500/2500 type) telephones.

For analog (500/2500 type) telephone activation, the Multi-Party Operations (MPO) package (141) must be equipped, with "YES" as the response to the RALL prompt in LD 15 to ensure register recalls are required before dialing control digits. The EOVR FFC defined must not start with the same digit as one of the control digits. The control digits are defined in LD 15 and are printed as part of the Customer Data Block (LD 21).

Telephones or trunks involved in any of the following cannot be camped on to:

- Non established call
- Conference call
- Attendant call
- Attendant call via Centralized Attendant Service (CAS), Primary Rate Interface (PRI), or Integrated Services Digital Network (ISDN) trunk
- Make Set Busy
- Do Not Disturb
- Automatic Call Distribution (ACD) call
- Operator Call Back
- Hold
- Data call
- Release Link call, and

— Parked call.

Call Forward and Hunting take precedence over Call Waiting. If Call Waiting is allowed, Camp-On is not attempted. If Call Waiting is not allowed, station-to-station Camp-On is automatically attempted. If this succeeds, Enhanced Override can still follow. If Camp-On fails because there is no external call, Forced Camp-On and Enhanced Override may still work. However, if Camp-On fails due to other limitations, Forced Camp-On and Enhanced Override will also not work.

Even though Camp-On will still function when Warning Tone Denied (WTD) Class of Service is defined, Forced Camp-On requires Warning Tone Allowed (WTA) Class of Service.

Camp-On requires an external call on hold. Forced Camp-On can be done without a call on hold, or with both internal and external calls on hold.

New Camp-On Classes of Service (Camp-On From another telephone Allowed [CPFA], Camp-On From another telephone Denied [CPFD], Camp-On To another telephone Allowed [CPTA], and Camp-On To another telephone Denied [CPTD]) apply to Forced Camp-On and automatic Forced Camp-On (AFCO) only. They do not apply to Station or attendant Camp-On.

If a telephone is denied Forced Camp-On by Class of Service, Enhanced Override may still be attempted.

Feature interactions

Attendant Break-In

Telephones with a toll operator break-in call cannot be camped on to. Overflow tone is returned to telephones attempting Forced Camp-on.

Attendant Calls

Telephones involved in attendant calls cannot be camped on to. Overflow (fast busy) tone is returned to telephones on which Forced Camp-On is attempted.

Automatic Call Distribution

Telephones involved in Automatic Call Distribution calls cannot be camped on to. Overflow (fast busy) tone is returned to telephones attempting Forced Camp-On.

Call Hold, Deluxe

Call Hold, Permanent

Neither held calls nor telephones with calls on hold can be camped on to with Forced Camp-On. Overflow tone is returned to telephones attempting Forced Camp-On.

Camp-On

Station-to-Station Camp-On and attendant Camp-On are not affected by Forced Camp-On. The new Classes of Service (Camp-On From another telephone Allowed [CPFA], Camp-On From another telephone Denied [CPFD], Camp-On To another telephone Allowed [CPTA], and Camp-On To another telephone Denied [CPTD]) affect only Forced Camp-On. The Station Camp-On (SCMP) package (121) is required to return busy tone instead of ringback tone to the party camping on.

Conference

Telephones involved in Conference calls cannot be camped on to. Overflow tone is returned to telephones attempting Forced Camp-On.

Data calls

Data calls have Warning Tone Denied (WTD) Class of Service and therefore cannot be camped on to. Overflow tone is returned to telephones attempting Forced Camp-On.

Do Not Disturb

Telephones with Do Not Disturb enabled cannot be camped on to with Forced Camp-On. Overflow tone is returned to telephones attempting Forced Camp-On.

Make Set Busy

Telephones with Make Set Busy active cannot be camped on to with Forced Camp-On. Overflow tone is returned to telephones attempting Forced Camp-On. Voice Call is blocked by Make Set Busy.

Multi-Party Operations

With Multi-Party Operations (MPO), when a consultation call is made on a set equipped with Priority Override, a control digit has to be dialed from the set to perform a recall and return the call on hold.

Night Restriction Classes of Service

If Forced Camp-on and Night Restriction for Forced Camp-on Class of Service (NRCA) are assigned, Forced Camp-on will be operational for the set only when Night Service is in effect.

Operator Call Back

Telephones involved in an Operator Call Back call or Toll Operator Break-In cannot be camped on to with Forced Camp-On. Overflow tone is returned to telephones attempting Forced Camp-On.

Override

When Priority Override is activated, it replaces normal override. Once Priority Override has been performed on a set, its Digit Display shows the DN of the overriding set.

Feature packaging

Forced Camp-On requires the following packages to function as described in this document:

- Station Camp-On (SCMP) package 121
- Flexible Feature Codes (FFC) package 139
- Priority Override/Forced Camp-On (POVR) package 186

Feature implementation

LD 15 – Configure the customer for Automatic Forced Camp-On and Station Camp-On tone.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	CDB MPO	Customer Data Block. Release 21 gate opener.
...		
- AFCC	(NO) YES	Automatic Forced Camp-On. Enter YES if Forced Camp-On is to be applied automatically. Enter NO if Forced Camp-On is to be applied manually.
...		
TYPE	FTR	Release 21 gate opener.
- STCB	(NO) YES	Station Camp-On Busy tone. Enter NO if Busy Tone is not to be given to the transferring (controlling) party when the desired station is busy. Enter YES if Busy Tone is to be given to the transferring (controlling) party when the desired station is busy.

LD 57 – Configure Enhanced Override FFCs.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	FFC	Flexible Feature Codes.
...		
CODE	EOVR	Enhanced Override (programmable only when the Priority Override package 186 is equipped).
EOVR	y...y	y...y is a one- to seven-character input that the user must dial to use the FFC. Valid inputs are digits 0 through 9, asterisk (*), and octothorp (#).

LD 10 – Configure analog (500/2500 type) telephones for Forced Camp-On.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	500	Telephone type.
CLS	(CPFA) CPFD (CPTA) CPTD WTA	Forced Camp-On from another telephone to this telephone (Allowed) Denied. Forced Camp-On to another telephone from this telephone (Allowed) Denied. Warning Tone Allowed.

LD 11 – Configure Meridian 1 proprietary telephones for Forced Camp-On.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	aaaa	Telephone type, where: aaaa = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(CPFA) CPFD (CPTA) CPTD WTA	Forced Camp-On from another telephone to this telephone (Allowed) Denied. Forced Camp-On to another telephone from this telephone (Allowed) Denied. Warning Tone Allowed.
...		
KEY	xx EOVR	Add an Enhanced Override key, where; xx = the key number (allowed to be programmed only if Priority Override package 186 is equipped).

LD 14 – Configure trunks for Forced Camp-On.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
...		
CLS	WTA	Warning Tone Allowed.

Feature operation

Forced Camp-On can be used when making either a simple or consultation call (i.e., having a call on hold while calling another party). The following feature operation descriptions use telephone A (an analog (500/2500 type) telephone) or telephone E (a Meridian 1 proprietary telephone) to call telephone B, which is connected to party C.

The telephones are configured as follows:

- 1 Telephone A is an analog (500/2500 type) telephone with Warning Tone Allowed (WTA) Class of Service.
- 2 Telephone B has Warning Tone Allowed (WTA) Class of Service.
- 3 Party C has Warning Tone Allowed (WTA) Class of Service and can be any telephone type or a Direct Inward Dial (DID), TIE, or Central Office (Public Exchange) (COT) trunk.
- 4 Telephone E is a Meridian 1 proprietary telephone with Warning Tone Allowed (WTA) Class of Service and an Enhanced Override (EOVR) key equipped.

For the following examples:

- 1 Telephones A and E both have Camp-On From another telephone Allowed (CPFA) Class of Service.
- 2 Both telephone B and telephone C are involved in a simple call, not a conference call.
- 3 Telephone B has Camp-On To another telephone Allowed (CPTA) Class of Service.
- 4 Call Forward, Hunting, and Call Waiting are not in use.

In the following feature operation descriptions, the term “recall” refers to performing a register recall, which can be performed in a number of different ways. Some typical examples are:

- Flash the switchhook. (This is the equivalent of hanging up the handset and picking it back up. This on hook, off hook is performed in a time period that is less than what the system would consider to be a valid disconnect.)
- Press the flash or LINK button if equipped.

The Camp-On tone is always provided for Forced Camp-On since Warning Tone Allowed (WTA) Class of Service is a prerequisite. This tone can be a buzz for Meridian 1 proprietary telephones or a single burst of tone for analog (500/2500 type) telephones if the customer (LD 15) option Periodic Camp-On Tone Denied (CTD) is selected. If the customer (LD 15) option Periodic Camp-On Tone Allowed (CTA) is selected, the Camp-On Tone as defined in the Flexible Tones and Cadences (FTC) (LD 56) in response to the CAMP prompt will be used.

While camping on, the party attempting the Camp-On, either telephone A or E, receives ringback if the Station Camp-On (SCMP) package (121) is not equipped, or either ringback or busy tone, as defined by the response to the Station Camp-On Busy tone (STCB) prompt in LD 15, if the SCMP package is equipped.

Forced Camp-On with an analog (500/2500 type) telephone

With automatic Forced Camp-On turned off; response to AFCO in LD 15 was "NO":

	ACTION	RESPONSE
1	B and C are connected in a simple call.	
2	A dials B.	A receives busy tone.
3	A performs a recall.	A receives special dial tone (SDT).
4	A dials EOVR FFC to attempt Forced Camp-On.	If telephone B or C has disconnected, telephone A receives overflow (fast busy) tone. Otherwise B receives Camp-On tone and A receives ringback or busy tone depending on the options equipped. A is manually Forced Camp-On to B.
5	B disconnects from the call.	Telephone A rings telephone B.

With automatic Forced Camp-On turned on; response to AFCO in LD 15 was "YES":

	ACTION	RESPONSE
1	B and C are connected in a simple call.	
2	A dials B.	A attempts Forced Camp-On to B.
3	If Forced Camp-On was successful.	A receives ringback or busy tone depending on the options equipped. A is automatically Forced Camp-On to B.
4	B disconnects.	A rings B.

Forced Camp-On with a Meridian 1 proprietary telephone

With automatic Forced Camp-On turned off; response to AFCO in LD 15 was "NO":

	ACTION	RESPONSE
1	B and C are connected in a simple call.	
2	E dials B.	E receives busy tone.
3	E presses EOVR key to attempt Forced Camp-On.	If telephone B or C has disconnected, telephone E receives overflow (fast busy) tone. Otherwise B receives Camp-On tone and E receives ringback or busy tone depending on the options equipped. E is manually Forced Camp-On to B.
4	B disconnects from the call.	Telephone E rings telephone B.

With automatic Forced Camp-On turned on; response to AFCO in LD 15 was "YES":

	ACTION	RESPONSE
1	B and C are connected in a simple call.	
2	E dials B.	E attempts Forced Camp-On to B.
3	If Forced Camp-On was successful.	E receives ringback or busy tone depending on the options equipped. E is automatically Forced Camp-On to B.
4	B disconnects.	E rings B.

Camp-On, Station

With this feature, any internal station can camp an external call on to another internal station that is busy. Prior to the introduction of this feature attendants were the only parties that could camp calls on to busy internal stations. The term internal station includes stations on other nodes within a Meridian Customer Defined Network (MCDN).

When a transferring party reaches a busy internal party, the transferring telephone will receive Ringback tone (providing certain conditions are met). When the transferring party completes the transfer, the external (calling) party will Camp-On to the desired party and the external party (an external party is any CO, DID, FEX, or WATS call) will receive ringback tone or music.

This feature applies to both standalone and network environments.

Within a network environment, the transferring and camped on to stations may be on the same or different nodes, as long as all nodes are configured with Network Station Camp-On.

Operating parameters

The restrictions that currently apply to the operation of the Camp-On feature from an Attendant Console also apply to Station Camp-On.

These restrictions are:

- Camp-On is not permitted if the desired station is in a state other than established (that is, ringing, dialing).
- Only one call at a time can Camp-On to a busy station.
- Calls cannot Camp-On to a station with the Call Waiting feature configured.

- The station camped on to will be given Warning tone only if the customer has Camp-On Tone Allowed (CTA) in the Customer Data Block (LD 15) and the station has Warning Tone Allowed (WTA) Class of Service assigned. If the station has Warning Tone Denied (WTD) Class of Service assigned, the Camp-On will take effect without giving any Camp-On tone to the camped on to (desired) party.
- The transferring station will receive Busy tone only if the response to the STCB prompt in the Customer Data Block (LD 15) of the camped on to (desired) telephone is YES. Otherwise, the transferring station will receive Ringback tone.

Camp-On indication

When a call is extended from an attendant to a busy station there is a specific combination of tones and indicator states to identify the Camp-On state.

When an inquiry call is made from a station, there is only one way for the user to distinguish between a busy telephone and an idle ringing telephone. That way is to ensure that the response to the STCB prompt in the Customer Data Block (LD 15) of the camped on to (desired) telephone is YES. Otherwise, Ringback tone is provided in both cases.

Feature interactions

Call Forward All Calls

Call Forward Busy

Call Waiting

Hunting

Call Waiting, Call Forward Busy (for DID calls only), Call Forward All Calls, Call Waiting and Hunting all take precedence over Station Camp-On.

Camp-On

With Station Camp-On, any internal station can camp an external call on to another internal station that is busy. Prior to the introduction of this feature, attendants were the only parties that could camp calls on to busy internal stations. The term internal station includes stations on other nodes within a Meridian Customer Defined Network (MCDN). For more information, see the Camp-On, Station feature description.

Dial Impulse Set

A Dial Impulse (DIP Class of Service) station must have TSA Class of Service to perform a Station Camp-On.

Network Attendant Service

For network-wide Station Camp-On, NAS must be equipped at each node of the network.

Feature packaging

For standalone environments, the Station Camp-On (SCMP) package 121 is required.

For network environments, the Station Camp-On (SCMP) package 121 and the Network Attendant Service (NAS) package 159 are required.

For Music (MUS), package 44 is required.

Feature implementation

LD 15 – Configure Station Camp-On for both standalone and network environments.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	CDB FTR	Customer Data Block. Release 21 gate opener.
...		
- STCB	(NO) YES	Station Camp-On Busy tone. Enter NO if Busy tone is not to be given to the transferring (controlling) party when the desired station is busy. Enter YES if Busy tone is to be given to the transferring (controlling) party when the desired station is busy.
- NSCP	(NO) YES	Network Station Camp-On. Enter NO if telephones on this node are not allowed to have calls camped on by telephones in other nodes. Enter YES if telephones on this node are allowed to have calls camped on by telephones in other nodes.

Feature operation

Standalone case

Any station, not necessarily the Night DN, attempting to transfer an external call may, during the associated inquiry call, camp the trunk on to a busy station.

The Camp-On will take effect from the moment the transferring station has completed the transfer to the desired DN.

The transferring station will hear Ringback tone or Busy tone depending on the option entered in response to the STCB prompt in the Customer Data Block (LD 15). This prompt applies to any telephone, not just the Night DN. By default (STCB is set to NO), the transferring party will hear Ringback tone.

The desired station will hear Camp-On tone if it has WTA Class of Service assigned. Otherwise, if it has WTD Class of Service, the Camp-On will take effect without the desired party being informed a call is camped on.

When the transfer is completed, the external party is camped on to the desired station and receives either Ringback tone or an announcement.

Network case

Any station, not necessarily the Night DN, attempting to transfer an external call across an MCDN network may, during the associated inquiry call, Camp-On the trunk to a busy station.

The location of the transferring party has no effect on the Station Camp-On capability.

The Camp-On will take effect from the moment the transferring station has completed the transfer to the desired DN.

The transferring station will hear Ringback tone or Busy tone depending on the option entered in response to the STCB prompt in the Customer Data Block (LD 15). This prompt applies to any telephone, not just the Night DN. By default (STCB is set to NO), the transferring party will hear Ringback tone. The tone given, either ringback tone or Busy tone, is determined by the node in which the desired (camped on to) party resides.

The desired station will hear Camp-On tone if it has WTA Class of Service assigned. If it has WTD Class of Service, the Camp-On will take effect without the desired party being informed a call is camped on.

When the transfer is completed, the external party is camped on to the desired station and receives either Ringback tone or an announcement.

Recall timing on Camp-On calls

When any station extends an external call, recall timing will be initiated if the call is camped on to a busy station.

The recall timing will start from the moment that the extending station “releases” the call. The value of the recall timer is set by the prompt RTIM in the Customer Data Block (LD 15).

At the recall, the camped on call will be routed to the attendant. If the attendant is in Night Service, Night treatment is given; if NAS routing is active, the call will be routed according to the NAS configuration.

Standalone case

When the recall to the attendant occurs, the Camp-On is canceled. If the attendant is busy during the recall, the recall will be queued.

Network case

When the recall occurs and the attendant has answered the recall, the call will still be camped on to the desired party. If during the recall the attendant is busy, the recall will be queued.

Camp-On to a Set in Ringback or Dialing

This product improvement allows a station or attendant to Camp-on an external trunk call to another station that is in a ringback or dialing state. If the station on which the call is camped on becomes idle without going into established state, the camped-on call rings the station automatically.

This capability applies to standalone and networking environments. Within a networking environment, the station affecting the Camp-on and the desired party can be anywhere in the network.

If the Flexible Tones and Cadences package is equipped and periodic Camp-on tones and cadences are defined, periodic Camp-on tone is given to the desired station when it goes into established state indicating that a call is camped on. For analog sets, this is in the form of a tone. For digital sets, it is a periodic buzz. The Camp-on tone lasts for the duration of the Camp-on. The desired station receives periodic Camp-on tone, if the station has Warning Tone Allowed class of service and the customer has the Camp-on Tone Allowed option. Music is provided to the camped-on station, if the Music package is equipped and defined for the customer.

During Camp-on, as soon as the attendant releases the call or the station completes the transfer, recall timing begins (the Recall Timer is configured in LD 15). If the timer times out, the Camp-on is recalled to the attendant. If the attendant is busy, the recall is queued against the attendant. The call can no longer be camped on to the desired station without affecting another Camp-on. If the attendant is in Night Service, the Camp-on receives night treatment.

If the desired party is on a different node, and Network Attendant Service (NAS) is equipped, the Camp-on is routed according to the NAS routing table. If the Camp-on is recalled to the local attendant, and the local attendant is busy, the recall is queued to the attendant. During this time, the call may still be answered by the desired station (the call remains camped on until the attendant answers the recall). This capability is that of the Slow Camp-on Recall.

Operating parameters

Only one call at a time can be camped on to a station in dialing or ringback state.

The cadence for Periodic Camp-on can be defined in LD 56. Periodic Camp-on can be allowed or denied on a customer and set basis.

Feature interactions

Attendant Forward No Answer

Camp-on recall takes precedence over the Attendant Forward No Answer recall. However, if during the recall the customer goes into Night Service and the recall is not answered by the night DN, the call is disconnected according to the Attendant No Answer feature processing.

Call Forward All Calls Call Waiting

Call Waiting and Call Forward All Calls take precedence over Camp-on.

First-Second Degree Busy

If the First-Second Degree Busy Indication is equipped, and the attendant attempts to Camp-on a call to a station in the ringing or dialing state, the attendant receives first degree busy indication. If the attendant attempts to Camp-on a call to a station that is second degree busy, Camp-on is not allowed. The attendant receives second degree busy indication.

Slow Answer Recall Modification

Slow Answer Recall Modification (SLAM) has an interaction after the attendant answers the recall. If SLAM is configured, then the target set is disconnected after the attendant answers the recall. The call is no longer camped on.

Feature packaging

Camp-On to a Set in Ringback or Dialing requires Camp-on French Type Approval (FRTA) package 197.

For network routing, the Network Attendant Service (NAS) package 159 is required.

If periodic Camp-on tone is desired, the Flexible Tones and Cadences (FTC) package 125 is required.

If music to the camped-on station is desired, the Music (MUS) package 44 is required.

For a station to Camp-on a trunk, the Station Camp-on (SCMP) package 121 is required.

Feature implementation

No change to existing configuration is required for the Camp-On to a Set in Ringback or Dialing feature.

Feature operation

See the Camp-On feature description contained within this document.

Camp-On to Multiple Appearance Directory Number

The Camp-On to Multiple Appearance DN enhancement allows a call camped on to an Multiple Call Ringing (MCR) or Multiple Call Non-ringing (MCN) Directory Number (DN) to be camped on to all sets with that DN. That is, any set with that MCR or MCN DN can receive the call when it idles. The camped call will Camp-On to each set as allowed for by the existing Camp-On feature. Also, each set with the MCR or MCN DN will receive Camp-On tone as long the camped call is in the Camp-On Queue. Prior to the introduction of the Camp-On to Multiple Appearance DN enhancement Camp-On was applied to the first set in the TN list.

This enhancement applies to Station Camp-On and Network Camp-On (regardless of where in the network the Camp-On originated).

An example of the sequence for multiple Camp-Ons to a single DN follows:

- 1 Sets A, B, and C are Meridian 1 proprietary telephones with the same MCR or MCN DN. All three sets are busy.
- 2 The attendant extends an external call to the busy DN and releases. Sets A, B, and C hear Camp-On tone.
- 3 A goes on-hook and camped call is presented to set A. Camp-On tone is removed from B and C.
- 4 If B went on-hook in step 3, the call is presented to set B and Camp-On tone is removed from sets A and C.
- 5 Similar operations as in step 4 if set C goes on-hook.

Operating parameters

The same feature requirements apply as for the Camp-On feature.

This Camp-On enhancement applies to Multiple-appearance Multiple-call Ringing (MCR) or Non-ringing (MCN) DN; it does not apply to Multiple-appearance Single-call Ringing (SCR) or Non-ringing (SCN) DN.

Feature interactions

Attendant Break-in

Camp-On will not be allowed on a set involved in an Attendant Break-in.

Centralized Multiline

This feature allows analog (500/2500 type) telephones to appear as MCR DN. This enhancement should apply to these sets.

Make Set Busy

Camp-On will not be allowed on a set with Make Set Busy active.

Network Camp-On

The Camp-On enhancement applies to all Camp-On attempts regardless of where the Camp-On was originated.

Operator Call Back

Camp-On is not allowed on a set waiting for an Operator Recall signal.

Single Call Ringing and Non-ringing

Multiple-appearance Single Call Ringing and Non-ringing (SCR and SCN) DN are not affected by the Camp-On enhancement.

Station Camp-On

The Camp-On enhancement applies to Station Camp-On.

Feature packaging

Camp-On to Multiple Appearance Directory Number requires International Supplementary Features (SUPP) package 131.

Feature implementation

No change to existing configuration is required for the Camp-On to Multiple Appearance Directory Number feature.

Feature operation

See the Camp-On feature description contained within this document.

Capacity Expansion

Introduced in X11 Releases 13 and 14, Capacity Expansion increases the limits associated with the features listed in [Tables 34](#) and [35](#).

Table 34
Features expanded in X11 Release 13

Feature	Previous limit	New limit
Call Pickup Groups *	255	4095 (1-4095)
Speed Call lists/Hot Line lists **	255	8191 (0-8190)
System Speed Call lists	255	4096 (0-4095)
Trunk Group Access Restrictions *	15	31 (0-30)
Trunk Group members (per trunk group)	127	254 (1-254)
CDP route list index *	32	256 (0-255)
CDP route list entry *	3	64 (0-63)
NARS/BARS route list entry *	8	64 (0-63)
Multiple Appearance DNs *	16	30
Group Call members (per group) For Option 11	10	20 6
NARS/ATVN NCOS Groups *	16	100 (0-99)
CDP NCOS Groups *	4	100 (0-99)
BARS/NFCR NCOS Groups *	8	100 (0-99)
Network Authorization Code digits *	7	14
CDP steering codes *	5K	10K
* Per customer ** Per system		

Table 35
Features expanded in X11 Release 14

Feature	Previous limit	New limit
Dial Intercom Groups *	254	2046 (0-2045)
Trunk Groups *	128	512 (0-511) (see Note)
Private Line routes *	1	512 (0-511)
Customer Groups **	32	100 (0-99) (see Note)
Network Authorization Codes *	20K	50K
* Per customer ** Per system		
Note: Due to large memory requirements for data configurations, only XN, NT, RT, XT, 51, 61, 71, and 81 support the increased Trunk and Customer Groups. All other systems support the original limits only.		

Operating parameters

Implementation of expanded features is dependent on available system memory.

The new Speed Call limit includes all combined Speed Call, System Speed Call, and Hot Line lists. Of the 8190 lists allocated for the system, up to 4096 lists can be allocated to System Speed Call.

The maximum number of Group Call lists remains 64.

Mini-CDR does not support the expanded CDR records produced by Capacity Expansion.

Feature interactions

Automatic Call Distribution (ACD)

Up to 512 (0-511) ACD routes can be configured.

ACD-D records

New ACD-D auxiliary messages replace messages that cannot accommodate the expansion.

Call Detail Recording

The Call Detail Recording (CDR) record has a new expanded tape format with the CDR Expansion package. For a detailed description of the expanded CDR record format, refer to *Call Detail Recording description and formats* (553-2631-100).

Hot Line list

Any number from 0 to 8190 can be assigned as a Hot Line list number.

Hunting

If more than 16 appearances of the same Directory Number (DN) are configured, each hunt step is counted as two, to avoid running out of time slots.

Speed Call, System

Any number from 0 to 4095 can be assigned to a System Speed Call list.

Feature packaging

No new feature package is required to implement the expanded feature limits.

Feature implementation

The existing overlays have been modified to accommodate the increased limits for the expanded features.

Feature operation

No specific operating procedures are required to use this feature.

Card LED Status

This feature allows the use of Swedish Televerket (TVT) peripheral equipment on the Meridian 1. This is accomplished by defining individual terminal loops as TVT type in LD 17. The Meridian 1 software is modified to allow the status (on/off) of the LED on the faceplate of the TVT cards to be opposite to the LED on NT cards. The TVT peripheral cards (standard extension line, off-premises extension and MFR) are equivalent to the NT 500-type line card and Digitone Receiver (DTR). Since the TVT off-premises extension line card must be treated as a local extension by the Meridian 1, the OPX Class of Service is prohibited for this card in LD 10.

Operating parameters

The Meridian 1 system software supports the following TVT cards:

- single-density standard extension line card (TPC60)
- dual-density extension line card (TPC451)
- two-wire Off-premise Extension (OPX) line card (TPC22)
- four-wire Off-premise Extension (OPX) line card (TPC23), and
- multi-frequency receiver (MFR) card (TPC15).

Feature interactions

Card LED Status does not interact with other features.

Feature packaging

Card LED Status requires International Supplementary Features (SUPP) package 131.

Feature implementation

LD 17 – Configure the system hardware and software parameters.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	CFN CEQU	Configuration Record. Release 19 gate opener.
...		
CEQU	(NO) YES	Change CE parameters.
TERM	T0-T159	TVT single density local terminal loops.

LD 10 – Create or modify data blocks for analog (500/2500 type) telephones.

Prompt	Response	Description
TYPE	NEW CHG	Add new data. Change existing data.
REQ	500	Telephone type.
...		
CLS	OPN	Allows Swedish TVT off-premise line card to be treated as a local extension by the Meridian 1.

Feature operation

No specific operating procedures are required to use this feature.

Centralized Attendant Service

Centralized Attendant Service (CAS) centralizes attendant services for customers with multiple locations. A typical Centralized Attendant Service (CAS) configuration consists of one or more remote locations, each served by its own switch and attendants, and a main site location where the Centralized Attendant Service (CAS) attendants are located. Each remote location has access to the main CAS attendant through Release Link Trunks (RLT), which can be either analog or digital. In addition, the remote locations are interconnected by TIE trunks.

When a call from a PBX in a remote location requires attendant assistance, an idle Release Link Trunks (RLT) at the remote PBX is seized, and the call is presented to the CAS attendant. If an idle Release Link Trunks (RLT) is not available, the call is queued until an RLT becomes idle. The CAS attendant can then extend the call to a station at the remote location.

The types of calls that require attendant assistance and can be handled by a CAS attendant are these:

- Listed Directory Number (LDN) calls
- Dial-0 calls (0 is optional if the flexible attendant Directory Number (DN) is used)
- Recalls, intercepts, or transfers to attendant, and
- Operator-assisted calls for restricted telephones, giving access to Wide Area Telephone Service (WATS), Foreign Exchange (FX), and Central Office (CO) trunks

For complete information regarding CAS, see *Centralized Attendant Service description and engineering* (553-2681-100).

Centralized Multiple Line Emulation

The Centralized Multiple Line Emulation (CML) feature allows a mixed group of telephones (analog (500/2500 type) telephones, or Meridian 1 proprietary telephones) to answer calls ringing at a central DN (referred to as the CML DN). This function is provided by using the Automatic Call Distribution (ACD) and Multiple Appearance Directory Number (MADN) features, and making modifications to the Call Pick-up feature.

Large queues to the CML DN (up to 15 calls) are handled by the ACD feature, which distributes the calls to members of the CML group.

Small queues to the CML DN (one or two calls) are handled using MADNs configured on a Meridian 1 proprietary telephone.

Operating parameters

The Centralized Multiple Line Emulation feature is not supported by Attendant Administration.

Call Pick-up groups assigned at the key level cannot be given a group number containing ACD DNs, since calls ringing in an ACD queue cannot be picked up.

Calls cannot be picked up from a station having direct-termination-denied Class of Service.

Normal tenant-service calling restrictions apply. If a station cannot receive a ringing call, then the call cannot be picked up for that station. A station that cannot direct dial another station cannot pick up a call from that station.

Calls ringing on the CML priority station are picked up before ringing Central Office trunk calls in the same Call Pick-up group.

Feature interactions

Digit Display

The digit display of the station picking up a parked call recall shows the parked call's access code followed by the parked call's access-identification code. If the picked-up call is a group member call, the display shows the group number of the picked-up station.

Feature packaging

Centralized Multiple Line Emulation requires International Supplementary Features (SUPP) package 131.

The following packages are also required:

- Basic Automatic Call Distribution (BACD) package 40
- Network Priority Queuing (PQUE) package 60

Feature implementation

LD 10 – Appropriate Classes of Service must be specified for each priority station; as well, continuous ringing and call arrangement must be defined as follows:

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	500	Telephone type.
...		
CLS	(PRSD) PRSA (CRD) CRA (MCRD) MCRA	Priority Call Pick-up station (denied) allowed. Continuous Ringing (denied) allowed. Multiple Call Arrangement (denied) allowed.

LD 11 – Ringing number pickup groups must be assigned to sets or keys on sets. Respond to the KEY prompt as follows:

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
...		
RNPG	(0)-255 (0)-4095	Ringing Number Pick-up Group. Respond with the number of the Ringing Number Pick-up group for which the set is to be assigned. Release 13 and later capacity expansion. To remove a telephone from a group, enter 0 in response to the RNPG prompt.
...		
CLS	(PRSD) PRSA	Priority Call Pick-up station (denied) allowed.
...		
KEY	xx RNP yyyy	xx = Key number RNP = Ringing Number Pick-up yyyy = Ringing Number Pick-up group number (optional). If the group number is not entered, the key will pick-up the group number assigned to the station. If the group number is entered, the key will pick-up calls in the specified group yyyy.

Feature operation

The ability to notify a large group that a CML is ringing is provided through modification of the Call Pick-up feature. A ringer, centrally mounted on a wall, rings whenever a call comes into the CML DN, and continues to ring until the call is answered. The ringer is configured as a priority 500-type set, which ensures that a call ringing on the CML DN is answered before any other station ringing in the Call Pick-up group.

- 1 To answer a CML call using a Meridian 1 proprietary telephone, press the **RNP** key.

You are connected to the caller.

To answer a call in your Call Pickup group from an analog (500/2500 type) telephone, follow these steps:

- 1 Lift the handset.
- 2 Dial the PURN FFC.
You are connected to the caller.

Centrex Switchhook Flash

Centrex Switchhook Flash (THF) permits the user to signal the Central Office (CO)/Public Exchange during an established CO call, requesting activation of a Central Office based service. Such services can include Call Transfer, Three-way Calling, Malicious Call Trace, Conference, or Autodial Tandem Transfer. For more information on these services, please refer to the feature descriptions contained within this document.

The feature is useful where Centrex is the backbone of the service network. Centrex Switchhook Flash (THF) is supported by the following trunk types:

- Automatic Identification of Outward Dialing (AIOD)
- Common Control Switching Arrangement, Automatic Number Identification (CCSA ANI)
- Centralized Automatic Message Accounting (CAMA)
- Central Office (CO)
- Common Control Switching Arrangement (CCSA)
- Direct Inward Dial (DID)
- Foreign Exchange (FX)
- Wide Area Telephone Service (WATS)
- CO trunks located at a remote node connected via ISDN Meridian Customer Defined Network (MCDN) TIE trunks, and
- Analog, Digital Trunk Interface (DTI), and DT12 CO trunks.

Whenever Centrex Switchhook Flash (THF) is invoked, Meridian 1 checks for the following:

- With analog (500/2500 type) telephones, that the Class of Service supports THF. With Meridian 1 proprietary telephones, the feature cannot be activated if a corresponding key is not equipped.
- That the telephone is on an active two-way trunk call.
- That THF is enabled in the trunk's Class of Service.

If any of the above checks fails, the user hears an overflow tone. After the tone times out, the original connection resumes.

In X11 Release 20.0X the following improvements were made to this feature:

- The minimum value of the range for the Flash-length (FLH) timer for a Centrex Switchhook Flash, defined in LD 16 in response to the TIMR prompt, is modified to provide a range of 60-1536 milliseconds.
- Attendant Consoles can now activate the feature.
- The THF feature can be activated on DTI2 Central Office trunks and Intelligent Peripheral Equipment (IPE) Central Office trunks.
- The Centrex Switchhook timing on the Extended Flexible Universal Trunk (EXUT) is now performed using firmware offering a significant improvement in trunk timing accuracy.

Operating parameters

This feature is not supported on Basic Rate Interface (BRI) telephones.

THF is not supported on Primary Rate Interface (PRI) or BRI Central Office trunks.

On Meridian 1 proprietary telephones, once the THF key has been pressed, all other function keys are blocked. While waiting for the Centrex connection, only the RLS key or on-hook connection is operative. Pressing the RLS key or hanging up terminates the original connection as well as the THF message.

For the analog (500/2500 type) telephones, another switchhook flash is not allowed once THF has been invoked. A second switchhook flash is treated as an on hook disconnection.

Only voice calls are supported on THF.

In Italy the DTI2 register recall signal is currently only supported for Type Approval and is not commercially available.

The 1.5 or 2 Mbit Digital Trunks Interface pack is required.

Because the software cannot recognize which type of Intelligent Peripheral Equipment (IPE) CO line card (e.g., XCOT, or XFCOT) is in use, CO trunks belonging to different card types should not coexist on the same Route Data Block (RDB).

All Existing Peripheral Equipment (EPE) CO line cards can be used for analog trunks.

Feature interactions

Autodial Tandem Transfer

Because Autodial Tandem Transfer uses Centrex Switchhook Flash (THF), it is affected by any modification to the THF enhancement feature.

China – Attendant Monitor

If any set at the customer location involved in the monitored call switchhook flashes or performs a Centrex switchhook flash, Attendant Monitor is immediately deactivated.

Collect Call Blocking

A Centrex Switchhook Flash cannot be invoked by another feature while the Collect Call Blocking answer signal is being sent.

Conference

THF allows conference calls through the CO. It can be invoked only if there is an established call connected to an outside trunk. If the telephone is engaged in internal conference calls, THF cannot be used.

Digital Private Signaling System #1 (DPNSS1) Executive Intrusion

If an analog (500/2500 type) telephone is part of an Executive Intrusion conference, any Switchhook Flash is ignored.

Malicious Call Trace - Enhanced

Interaction with the Centrex switchhook flash results because the flash range is changed for this feature. Communication to the CO (trunk hook flash) is performed by using the Centrex switchhook flash feature base code. The enhanced range is available for the Centrex switchhook flash.

Periodic Clearing on RAN, Meridian Mail, ACD and Music

This feature enhancement is not supported if used together with Centrex Switchhook flash.

Secrecy

If secrecy is not allowed in LD 15 (OPT = SYD), the attendant must use the EXCL DEST or EXCL SRC keys to select the Central Office trunk on which the THF has to be sent. The THF is not activated when both SRC and DEST are included.

Feature packaging

Centrex Switchhook Flash (THF) package 157 has no package dependencies. The End-to-End Signaling (EES) package 10 is recommended for users with Meridian 1 proprietary telephones, and Attendant Consoles.

If both THF and the 2 Mbit Digital Trunk Interface (DTI2) package 129 are present, this feature can also be applied to digital Central Office trunk connections.

Feature implementation

LD 10 – Enable/disable Centrex Switchhook flash for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. Terminal Number for the Option 11.
CLS	THFA (THFD)	Allow (Deny) Centrex Switchhook Flash.

LD 11 – Enable/disable Centrex Switchhook Flash for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	aaaa	Telephone type, where: aaaa = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, 3000.
TN	l s c u c u	Terminal Number. Terminal Number for the Option 11.
KEY	xx THF	Add a Centrex Switchhook Flash key; xx is the key number.

LD 12 – Enable/disable Centrex Switchhook Flash for ATTN consoles.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	ATT 1250 2250	Console type.
...		
KEY	xx THF	Add a Centrex Switchhook Flash key; xx is the key number.

LD 14 – Enable/disable Centrex Switchhook Flash for each trunk.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	AID	Automatic Identification of Outward Dialing (AIOD) trunk data block.
	CAA	Common Control Switching Arrangement Automatic Number Identification (CCSA ANI) trunk data block.
	CAM	Centralized Automatic Message Accounting (CAMA) trunk data block.
	COT	Central Office (CO) trunk data block.
	CSA	Common Control Switching Arrangement access line data block.
	DID	Direct Inward Dialing (DID) trunk data block.
	FEX	Foreign Exchange trunk data block.
CLS	WAT	Wide Area Telephone Service trunk data block.
	THFA (THFD)	Allow (Deny) Centrex Switchhook Flash on this trunk.

LD 16 – Enable/disable Centrex Switchhook Flash for each trunk route.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	RDB	Route Data Block.
CNTL	YES	Change controls or timers
- TIMR	FLH <space> 60-(510)-1536	Flash timer in msec. The range of the Centrex switchhook flash timer is 60-(510)-1536. The FLH value is rounded down to the nearest 10 msec. tick. If the value entered is 128 or 129, then it is set to 130 msec. <i>Software controlled flash</i> 60-127 msec. Digit 1 will be sent. 128-1536 msec. software controlled switchhook flash. Note: With release 20 and later, an FLH timer value of 127 msec. or less is not supported by the XFCOT card. The firmware controlled flash must be used. <i>Firmware controlled flash</i> The user can enter any value from 60 to 1536 msec. 90 msec. is the hardcoded firmware flash for an XFCOT card; the technician should enter 90 msec. Note: the FWTM prompt must be set to YES for the trunk associated with this route in LD 14, if firmware timing is to be used.

LD 73 – All types of sets can now activate the THF on digital trunks for incoming and outgoing calls. Therefore, the P RRC(s) signal must be configured in the SICA table. This signal was already existing for incoming calls, but is now available for both incoming and outgoing calls.

Prompt	Response	Description
REQ	NEW CHG	New, or change.
TYPE	DTI2	2 Mbits DTI
FEAT	ABCD	Digital signaling category.
SICA	XX	Signaling category table.
...		
INCOMING/ OUTGOING CALLS		
...		
P RRC(S)	ABCD	Register Recall signal.
TIME	10-(100)-630	Duration of RRC Pulse in msec.

Feature operation

Analog (500/2500 type) telephones

To use Centrex Switchhook Flash (THF) from an analog (500/2500 type) telephone, follow these steps:

- 1** Flash the switchhook to receive a special dial tone.
- 2** Enter the Special Prefix (SPRE) code, then the THF feature access code (96). Alternatively the appropriate Flexible Feature Code (FFC) should be used.

To reestablish a connection before the overflow tone ends, flash the switchhook.

Meridian 1 proprietary telephones

To use Centrex Switchhook Flash (THF) from a Meridian 1 proprietary telephone, press the key configured for THF, or the appropriate FFC code.

To reestablish a connection before the overflow tone ends, press the DN key or the key establishing the original call.

Attendant Consoles

Attendant Consoles must use the THF key. Dial access is not supported on these consoles.

To reestablish a connection before the overflow tone ends, press the DN key or the key establishing the original call.

Charge Account and Calling Party Number

Used in conjunction with Call Detail Recording (CDR), Charge Account bills calls directly to specific accounts or charge numbers instead of DNs.

Charge Account supports fixed-length numbers of 0 to 23 digits (default is 0), specified on a per-customer basis. The charge account number is validated by the system for length only. Verification of the actual digits entered is part of CDR downstream processing.

On Meridian 1 proprietary telephones, this feature can be activated by a separate Charge key/lamp pair, or dial accessed. On Attendant Consoles, it is activated by a separate key/lamp pair. On single-line telephones, it is dial-accessed.

When a Charge Account number is used, the entire call is billed to that number. The number can be entered either before or during a call, or when Consultation Hold, Call Transfer, or Conference is activated.

The Charge Account feature is not supported for internal calls. A Charge Account number entered through the Charge key/lamp pair is blocked for established internal calls.

Charge Account can be used to charge an entire conference call or portions of the call. Portions of the call are assigned to different accounts by entering the account number when adding trunks to a conference, before the conference is completed.

- When using analog (500/2500 type) telephones, enter the account information immediately after the switchhook flash, before the new trunk is dialed.
- When using Meridian 1 proprietary telephones, enter the number after pressing the Conference key the first time, and before dialing.

The charge record shows the identity of the user who made the entry and the trunk that was added to the call. If the new call is not added to the conference, the record shows a simple two-party call.

An entire call is charged to the same account by entering the charge number while active on the conference. When using Meridian 1 proprietary telephones, press the Charge key and enter the number in the usual manner. When using analog (500/2500 type) telephones, enter the number after a switchhook flash.

The call is reestablished without dialing additional trunks; a record is produced for each trunk involved in the conference. In all these records, the telephone user entering the number is considered the originating party. When an entire call is charged to only one account number, it must be entered while all trunks are connected to the conference.

Calling Party Number (CPN) is an extension of Charge Account that allows entry of the calling party's number on collect calls. Meridian 1 proprietary telephones are assigned a separate Calling Party Number (CPN) key/lamp pair to activate this feature. When the calling party's number is entered, a Calling Party Number (CPN) record is produced. This record may be compared to a telephone company billing for collect calls. Calling party numbers can be up to 23 digits, and may include an asterisk (*) and octothorpe (#). A CPN record is generated on the Call Detail Recording (CDR) device similar to a normal Charge record.

Operating parameters

A valid charge account number is recognized when the number of dialed digits matches the account length, or when the octothorpe (#) indicates end of dialing. After a valid charge account number has been entered, the system returns a dial tone.

If too few digits are dialed, no response is given until the interdigit timeout occurs. Overflow tone is returned for 15 seconds after timeout; then the user is locked out.

If Call Transfer or Conference is used to consult with a third party and returns to the original call without completing the transfer or conference, the charge account number is applied to the Consultation call only.

Attendant use of Charge or CPN is restricted to situations in which there is only one account party involved in the call (source side). When the calling party number is used, the attendant must transfer the call, or the Call Detail Recording (CDR) record does not reflect it.

Feature interactions

Attendant Barge-In Attendant Busy Verify

A charge account number cannot be entered when Barge-In or Busy Verify is active. Barge-In cannot be used to connect to a trunk after an account number has been entered.

Call Transfer

A Call Transfer call produces two records: a Call Detail Recording (CDR) start record and a CDR end record.

China – Flexible Feature Codes - Outgoing Call Barring

Digits dialed after a charge account are checked against the active Outgoing Call Barring level.

Conference

Conference calls produce multiple Call Detail Recording (CDR) records. Whenever a new trunk is added to a conference, the connection between the connected telephone and the trunk is recorded, and a connection to the conference loop is established. This causes CDR to generate a start record with the telephone and trunk identified as the involved parties. As trunks are removed from a conference, CDR end records are produced. These records may identify different telephones or conferences as the local parties.

Music, Enhanced

The Charge Account (CHG) and Calling Party Number (CPN) keys place the far end party on Hold while a charge number is entered. The held party receives Music during this period.

Override

When Charge Account is used during active Override, some digits may be lost. When entered with Override in conference, a Charge Account number is accepted and no digits are lost.

Ring Again

When Ring Again is activated, no charge record is generated, but the information is stored for future use. If Ring Again is canceled before a trunk is seized, the charge number is deleted and no record is produced. If a trunk is seized later by Ring Again, the charge record is generated in the usual manner. The use of Ring Again with Charge Account ties up system resources because an auxiliary call register must be maintained in the Ring Again queue.

Speed Call Autodial

Charge account numbers, including the Charge Account access Special Prefix (SPRE) code, can be stored as Speed Call or Autodial numbers. All current limitations of these features apply, such as a maximum of 23 digits per entry, including the access code. An Autodial number or dialed digits can follow, but not precede, a Speed Call number. The digits generated by an Autodial key during feature operation are accepted as Charge Account digits.

Telephone keys

A Charge Account entry is aborted with any of the following keys:

- DN
- Page
- Voice Call
- In-Calls
- Call Waiting
- Call Pickup
- Release
- Not Ready
- a loop key
- Release Destination, and
- Release Source.

Feature packaging

CDR with Charge Account (CHG) package 23 requires:

- Call Detail Recording (CDR) package 4
- Charge Account/Authorization Code Base (CAB) package 24

Feature implementation

LD 15 – Add/change Charge Account for a customer.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB CDR	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- CHLN	(0)-23	Maximum number of digits that can be entered as a charge account number.

LD 10 – Allow/deny access to Charge Account for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. For Option 11C.
CLS	(XFD) XFA	(Deny) allow call transfer.

LD 11 – Add/change a Calling Party Number or Charge key for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	aaaa	Telephone type, where: aaaa = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. For Option 11C.
KEY	xx CPN xx CHG	Add a Calling Party Number key (must be key 24 for the M2317 and key 32 for the M3000). Add a Charge key (must be key 25 for the M2317 and M3000).

LD 12 – Add/change a Calling Party Number or Charge key for Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	ATT 1250 2250	Attendant Console type.
TN	l s c u c u	Terminal Number. For Option 11C.
CUST	xx	Customer number.
KEY	0-9 CPN 0-9 CHG	Add a Calling Party Number key. Add a Charge key.

Feature operation

This section explains Charge Account feature and Calling Party Number feature operation for Meridian 1 proprietary telephones, analog (500/2500 type) telephones, and Attendant Consoles.

Meridian 1 proprietary telephones

To charge a call to an account before dialing, follow these steps:

- 1 Select a free extension.
- 2 Press **Charge** or dial SPRE + 5.
- 3 Dial the Charge Account number.
- 4 When you have a dial tone, dial the telephone number.

To charge during a call in progress, follow these steps:

- 1 Press **Charge**.
- 2 Dial the Charge Account number.
- 3 Press the extension key to return to your call.

To use a SPRE code to charge a call in progress, follow these steps:

- 1 Press **Transfer** or **Conference**.
- 2 Dial SPRE + 5.
- 3 Dial the Charge Account number.
- 4 Press the extension key to return to your call.

To charge a call to an account when you transfer a call, follow these steps:

- 1 Press **Transfer**.
The call is on hold.
- 2 Press **Charge** or dial SPRE + 5.
- 3 Dial the Charge Account number.
- 4 Dial the number where the call is to be transferred.
- 5 Press **Transfer**.

To charge a call to an account when adding a party to a conference call, follow these steps:

- 1 Press **Conference**.
The call is on hold.
- 2 Press **Charge** or dial SPRE + 5.
- 3 Dial the Charge Account number.
- 4 Call the party that you want to add to the conference.
- 5 Press **Conference**.

To record a caller's number for accounting purposes, follow these steps:

- 1 Press **Calling No.**
The other party is on hold.
- 2 Dial a Charge Account number or the caller's number.
- 3 Press **Calling No.** again to return to the call.

Analog (500/2500 type) telephones

To charge a call to an account before dialing, follow these steps:

- 1 Select a free extension.
- 2 Dial SPRE + 5.
- 3 Dial the charge account number.
- 4 When you have a dial tone, dial the telephone number.

To charge during a call in progress, follow these steps:

- 1 Flash the switchhook or link.
- 2 Dial SPRE + 5.
- 3 Dial the Charge Account number.
- 4 Flash the switchhook or link to return to the call in progress.

To charge a call to an account when adding a party to a conference call, follow these steps:

- 1 Flash the switchhook or link.
- 2 Dial SPRE + 5.
- 3 Dial the Charge Account number.
- 4 Call the party that you want to add to the conference.
- 5 Flash the switchhook or link.

Attendant Consoles

To charge a call to an account before dialing, follow these steps:

- 1 Press the **loop** key.
- 2 Press **Charge**.
- 3 Dial the Charge Account number.
- 4 When you have a dial tone, dial the telephone number.

To charge during a call in progress, follow these steps:

- 1 While the source call is active on a loop key, press **Charge**.
- 2 Dial the Charge Account number.
The voice connection remains active.
- 3 Flash the switchhook or link to return to the call in progress.

To record a caller's number for accounting purposes, follow these steps:

- 1 While the source call is active on a loop key, press **Calling No.**
The other party is on hold.
- 2 Dial a Charge Account number or the caller's number.
- 3 Press **Calling No.** again to return to the call.

Charge Account, Forced

Forced Charge Account (FCA) temporarily overrides Class of Service restrictions for toll-denied users. Use FCA long distance calls to an account number when calling from a telephone that is restricted from making long distance calls. The unrestricted Class of Service provided by FCA applies for the duration of the call.

When the account number is entered, a charge record is produced on a Call Detail Recording (CDR) device.

FCA supports variable-length numbers of 1 to 23 digits. The minimum value for the account number is specified at the customer level.

A valid account number equals or exceeds the minimum value defined, and is validated by the system for length only. Verification of the actual digits entered is part of Call Detail Recording (CDR) downstream processing.

FCA can be allowed or denied at both customer and user levels. Users include any station or TIE and Common Control Switching Arrangement (CCSA) type trunks assigned a Toll-Denied (TLD), Conditionally Toll-Denied (CTD), or Conditionally Unrestricted (CUN) Class of Service.

Meridian 1 proprietary telephones activate this feature by using a separate Charge key/lamp pair. Any user can access this feature by dialing SPRE + 5.

A distinction is made between normal CDR Charge Account processing and FCA. If all the following conditions are met, the account number is treated as an FCA code:

- The telephone from which the number is entered must have a TLD, CTD, or CUN Class of Service.
- The station or trunk from which the number is entered must be in a state to originate a call (press a Directory Number [DN] key or flash the switchhook).
- FCA must be enabled at the customer level.
- FCA must be allowed for the station or trunk from which the number is entered.
- A valid account number must be entered at the beginning of the call.

The unrestricted Class of Service provided by FCA as described above applies for the duration of the call only. The account number must be reentered for each successive toll call placed by the station or trunk.

Operating parameters

An octothorpe (#) dialed after the account number indicates that the subsequent digits are part of the dialed number.

CDR charge account numbers are fixed-length codes for which a maximum value is specified by the customer. This is also the maximum allowed for the FCA account number.

Because 500 telephones cannot dial an octothorpe (#), they are restricted to fixed-length account numbers.

FCA does not apply to attendant calls.

Feature interactions

Autodial Speed Call

FCA numbers (including the Special Prefix [SPRE] code and the Charge Account access code) can be entered in Speed Call lists or stored as Autodial numbers. The digits can also be stored, provided that the account number, regardless of its length, is followed directly by an octothorpe (#).

Authorization Code Security Enhancement

If the Authorization Code is used to change the Class of Service of the user, the new Class of Service must be TLD, CTD, or CUN. If an Authorization Code entered after FCA has altered the Class of Service to unrestricted (UNR), the change made by the Authorization Code still comes into effect.

If the originator's Network Class of Service (NCOS) has been changed by an Authorization Code prior to an applicable FCA entry, the new NCOS is replaced by the FCA NCOS, provided the new Facility Restriction Level (FRL) is not lower than the existing FRL. Similarly, if the originator's NCOS has been changed by an FCA entry, the NCOS will be changed again by a valid Authorization Code entry.

Basic/Network Alternate Route Selection (BARS/NARS)

If BARS or NARS is equipped, a Network Class of Service (NCOS) associated with FCA must be defined in the Customer Data Block.

Call Detail Recording

Normal Call Detail Recording (CDR) charge account numbers can still be entered before or after an FCA code. If the criteria for an FCA call are not met, (CDR) charge account numbers function in the normal manner.

Call Transfer Conference

If an FCA code is entered at the beginning of a call, the new unrestricted Class of Service remains in effect for any transfer or conference made during the call. If all FCA criteria are met, an account number entered after activating the Conference key, Call Transfer key, or a switchhook flash is interpreted as an FCA code.

Last Number Redial

These codes are not stored in Last Number Redial (LNR). To use these features when calling the number stored in LNR, the code must first be dialed manually. When dial tone is returned, LNR can be used to complete the dialing.

Pretranslation

The first digit dialed after a valid Charge Account Code is sent to the pretranslator.

Scheduled Access Restrictions

FCA can be used to override Scheduled Access Restrictions (SAR) on a per-call basis, provided the current Class of Service (COS) of the telephone or trunk is CUN, TLD, or CTD. The current COS is the COS in force according to the SAR schedule. If an Authorization Code that sets the COS to CUN, TLD, or CTD is dialed before the FCA, the call is allowed. FCA sets the COS to UNR and the Network COS (NCOS) to the NCOS defined in LD 15, provided that FCA is enabled on both a customer and telephone/trunk basis.

Stored Number Redial

The Forced Charge Account code is not stored. To store a code, dial the code prior to using Stored Number Redial to dial the call.

Trunk Group Access Restrictions (TGAR)

Trunk Group Access Restrictions apply to the telephone or trunk entering the account number.

Feature packaging

Forced Charge Account (FCA) package 52 requires:

- Charge Account/Authorization Code Base (CAB) package 24
- Charge Account (CHG) package 23

Feature implementation

LD 15 – Enable/disable Forced Charge Account for a customer.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CDB CDR	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
- CHLN	(0)-23	Maximum number of digits that can be in an FCA code (default is 0).
- FCAF	(NO) YES	(Disable) enable FCA for the customer.
- CHMN	xx	Minimum number of digits that can be in an FCA code (must be less than CHLN).
- FCNC	xx	NCOS to be assigned to FCA codes.

LD 10 – Enable/disable Forced Charge Account for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	I s c u c u	Terminal Number. For Option 11C.
FCAR	(NO) YES	FCA can be used by this telephone. FCA is restricted from use by this telephone.

LD 11 – Enable/disable Forced Charge Account for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	aaaa	Telephone type, where: aaaa = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	I s c u c u	Terminal Number. For Option 11C.
FCAR	(NO) YES	FCA can be used by this telephone. FCA is restricted from use by this telephone.

LD 14 – Enable/disable Forced Charge Account for each incoming TIE or CCSA trunk.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	TIE CAA	Trunk type (must be TIE or CCSA).
TN	l s c u c u	Terminal Number. For Option 11C.
FCAR	(NO) YES	FCA can be used by this trunk. FCA is restricted from use by this trunk.

Feature operation

To use FCA, follow these steps:

- 1 Select a free extension.
- 2 Press **Charge** or dial SPRE + 5.
- 3 Dial the Charge Account number.
- 4 When you have a dial tone, dial the long distance number.

For operating procedures from particular telephones or consoles, see the Charge Account and Calling Party Number module in this document.

Charge Display at End of Call

This feature allows the set display of a charged party to show the charged amount of a metered call, along with the normal call-display information. To give you time to read and transcribe the charges, the feature maintains this display for ten seconds after call completion, unless you do something with the set such as make another call or use another feature.

The currency (for instance, pound sterling, mark, and dollar) displayed is the currency specified in the feature configuration (LD 15 and LD 16). The charge information is received from the Central Office (generated from a Periodic Pulse Metering trunk or an Integrated Services Digital Network (ISDN) trunk). See also the Advice of Charge feature descriptions in the ISDN Primary Rate Interface binder.

This feature is operational in a standalone environment, and is available on modular digital sets, M2317 sets, and M3000 sets. For M2317 sets and M3000 sets, the charge information is appended to the standard call-display information. On modular sets, the charge information is scrolled to the second line (there are two lines of display on these sets).

When a call is transferred, the Advice of Charge display appears on the set to which the call is transferred. It does not appear on the display of the set that transferred the call.

M2317 and M3000 charge display

For M2317 sets and M3000 sets, the charge information is appended to the standard call-display information. In the example below, the dialed DN (90113145078400) is displayed followed by the cost charged to the call (\$22.45).

90113145078400 2245

=====>

New Modular Set charge display

On the new modular sets, which have two lines of display, the charge information is scrolled to the second line. In the example below, the name of the caller is displayed on the first line. The dialed DN (90113145078400), followed by the cost charged to the call (\$12.75), is displayed on line two.

LOIS LANE

90113145078400 1275

Operating parameters

The charge is displayed only if all of the following conditions are met:

- the customer to which the set belongs has the Charge Display at End of Call (CHDA) option defined
- the set has a display with Message Registration Allowed Class of Service, and
- the trunk is configured with buffered or non-buffered PPM.

Feature interactions

There are no interactions with other features.

Feature packaging

The following packages are required for Charge Display at End of Call:

- International Supplementary Features (SUPP) package 131
- Periodic Pulse Metering/Message Registration (MR) package 101

Feature implementation

LD 17 – Implement Periodic Pulse Metering (PPM).

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	PARM	Parameter.
...		
MTRO	PPM	Periodic Pulse Metering

LD 15 – Allow or deny Charge Display at End of Call for a customer.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	CDB FTR	Customer Data Block. Features and options.
CUST	xx	Customer number.
...		
OPT	(CHDD) CHDA	Enter CHDA to allow Charge Display at End of Call.

Feature operation

After call completion the advice of charge information is shown on the set's display for 10 seconds, unless you do something with the set such as make another call or use another feature.

China – Attendant Monitor

New Attendant Monitor Function

Attendant Monitor is a customer defined option which allows the attendant to monitor, in listen only mode, any established call involving a set or trunk on the customer's switch with or without the connected parties being aware that monitoring is taking place (depends on the configuration of the customer tone option). The difference between the existing Busy Verify and Barge-In features and the Attendant Monitor feature are the following:

- Attendant Monitor provides a listen only path for the attendant.
- There is no click sound given to the connected parties upon attendant connection when the no tone option is configured.
- The tone to the connected parties may or may not be given depending on the new customer tone option for Attendant Monitor.
- The display (if there is one) on any parties involved in the call does not indicate that the attendant is monitoring.

Busy Verify and Barge-In Enhancement

The operation of Busy Verify and Barge-In changes slightly when the CHINA is equipped. Tone is now configurable. Busy Verify and Barge-In restrictions relating to the Warning Tone Allowed/Denied Class of Service apply to this enhancement as well.

Operating parameters

Since Attendant Monitor is based on Busy Verify and Barge-In, it has the same restrictions which apply to Busy Verify and Barge-in unless otherwise stated in this feature description.

This feature has been developed exclusively for use in China.

Attendant Monitor is strictly a standalone, same-customer feature which is not supported over networks. A customer equipped with the Attendant Monitor feature can only monitor a DN or trunk defined for that customer without going over the network.

The toggle function between having a one-way speechpath and a two-way speechpath during monitoring is not supported.

This feature is not supported for attendants monitoring other attendants.

Monitoring an M2216 or M5317 is not supported.

The attendant may be blocked from monitoring a DN or trunk due to a limit on the number of conference timeslots.

Feature interactions

Attendant Barge-In

When China (CHINA) package 285 is equipped, the normal operation of Barge-In changes slightly. The repeatable tone is now configurable with the (TOA)/TOD option.

If an attendant is monitoring a trunk, a second attendant defined at the same customer location is blocked from Barging In to any trunk involved in the monitored call.

If an attendant is Barged-In with a trunk, a second attendant defined at the same customer location will be blocked from monitoring any party involved in the monitored call.

Attendant Break-In

If an attendant is monitoring a DN, a second attendant defined at the same customer site will be blocked from Breaking In to any party involved in the monitored call.

If an attendant is in a Break-In situation with a DN, a second attendant defined at the same customer site will be blocked from monitoring any party involved in the monitored call.

Attendant Busy Verify

When China (CHINA) package 285 is equipped, the normal operation of Busy Verify changes. The repeatable tone is now configurable with the (TOA)/TOD option.

If an attendant is monitoring a DN, a second attendant defined for the same customer will be blocked from Busy Verifying any party involved in the monitored call.

If an attendant is Busy Verifying a DN, a second attendant defined for the same customer will be blocked from monitoring any party involved in the monitored call.

Automatic Call Distribution

The attendant cannot monitor a call in which an Automatic Call Distribution (ACD) DN is involved.

Call Forward All Calls**Call Forward Busy****Call Forward, Internal Calls****Call Forward No Answer**

If an attendant attempts to monitor a DN which is Call Forwarded and is idle, idle DN treatment is given.

Call Hold, Permanent

Monitoring is not affected if anybody involved in the monitor's call activates hold, except for the case of a simple call. For a monitored simple call, activating hold deactivates monitoring. In all cases, activation of music on hold deactivates monitoring.

An attendant monitoring a call cannot put the monitored DN on hold. The attendant pressing the hold key has no effect while monitoring is enabled.

Call Park

If a DN being monitored becomes parked by another party, the Attendant Monitor feature is deactivated.

Call Trace

If a Call Trace is performed on the attendant, the output will consist of the existing Call Trace information elements for an attendant loop. In addition, "MON" will be printed immediately after "ATTN" to indicate that this attendant is monitoring.

If a Call Trace is performed on any other party involved in the monitored call, the output will consist of the existing information elements for a DN or trunk, as well as "MON" being printed immediately before "ACTIVE".

Call Transfer

If any party at the customer location involved in a monitored call attempts to activate call transfer, monitoring is immediately deactivated.

Centrex Switchhook Flash

If any set at the customer location involved in the monitored call switchhook flashes or performs a Centrex switchhook flash, Attendant Monitor is immediately deactivated.

Conference

If any party involved in a monitored call attempts to activate conference, monitoring is immediately deactivated. With Attendant Monitor active, the attendant cannot create a conference without first disabling the Attendant Monitor feature.

Do Not Disturb

If an attendant attempts to monitor a DN which has Do Not Disturb activated and is idle, idle DN treatment is given.

Make Set Busy

If an attendant attempts to monitor a DN which has Make Set Busy activated and is idle, idle DN treatment is given.

Malicious Call Trace

If a party involved in a monitored call activates the TRC key, monitoring is immediately deactivated.

Multiple Appearance DN

If Attendant Monitor is attempted on a Multiple Appearance DN, the Multiple Appearance Redirection Prime (MARF) TN becomes the desired party.

Override

A set may operate override to join into a desired call. If the desired call is being Attendant Monitored at the time, one of the following occurs:

- If the desired call is a conference call, the override attempt is blocked as per existing operation.
- If the call is a simple one with the Attendant Monitoring with no tone, the override attempt is successful and Attendant Monitor is deactivated.
- If the call is a simple one with the Attendant Monitoring with tone, the override attempt is blocked.

Override, Enhanced

A set may operate enhanced override on a desired call. If the desired call is being Attendant Monitored at the time, existing operation occurs for the first time the Enhanced Override key is pressed. The second time the key is pressed, the interaction with Attendant Monitor is the same as with regular override.

Privacy Release

If Privacy Release is activated on a set that is involved in a monitored call, Attendant Monitor is deactivated.

Private Line

Attendant Monitor is blocked from monitoring a Private DN.

Feature packaging

The China – Attendant Monitor feature is included in China (CHINA) package 285.

Feature implementation

LD 15 – Enable the Attendant Monitor option for a customer, and then either allow or deny the tone option.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	ATT	Release 21 gate opener.
- OPT	(AMD) AMA (TOA) TOD	(Deny) allow Attendant Monitor. (Allow) deny Attendant Monitor Tone.

LD 12 – Define the Barge-In/Attendant Monitor key and the Busy Verify/Attendant Monitor key on an Attendant Console.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.
TYPE	ATT 1250 2250	Attendant Console type.
...		
KEY	00 BVR 01 BIN	Allow both Busy Verify and Attendant Monitor on key 00. Allow both Barge-In and Attendant Monitor on key 01.

Feature operation

Monitoring a DN

- 1 Press an idle Loop key on the Attendant Console. The Loop indicator is lit.
- 2 Press the Busy Verify key. The Busy Verify lamp is lit.
- 3 Press the Busy Verify key again to enable Attendant Monitor. The Busy Verify lamp is in the flashing state indicating that the Attendant Monitor option is enabled.
- 4 Dial the extension desired to be monitored. One of the following happens:
 - Attendant Monitor is blocked when the extension is maintenance busy or disabled.
 - Attendant Monitor is blocked when the extension is vacant.
 - Attendant Monitor is blocked when the extension is in some transient state (e.g., Conference, or Transfer)
 - Attendant Monitor is blocked when the extension is idle, receiving busy tone, or receiving overflow tone.
 - Attendant Monitor is blocked when the extension is involved with another attendant.
 - Attendant Monitor is blocked when the extension has activated the Hold key.
 - Attendant Monitor is blocked when the extension is already involved in a monitored call by another attendant.
 - Attendant Monitor is active when the extension is busy. The attendant is able to listen to all connected parties. If the Attendant Monitor Customer tone is denied (TOD), there is no indication given to the connected parties that the attendant is monitoring. If the Attendant Monitor Customer Tone is allowed (TOA), a burst of tone is sent to the connected parties every 16 seconds. When the monitored DN disconnects from the call, Attendant Monitor is deactivated.

In all of the above situations, the display on the parties involved in the call does not indicate that the attendant has attempted to monitor. With TOD configured, upon the attendant successfully joining the connection there is no click sound given to the monitored parties that could indicate that the attendant has joined in.

- 5 When Attendant Monitor is deactivated, the attendant is released from monitoring and is free to process calls. Deactivation occurs due to the following:
 - The RLS key on the Attendant Console is pressed.
 - Any DN involved in the monitored call disconnects.
 - Any DN involved in the monitored call at the customer location activates some form of call modification.

Monitoring a Trunk

- 1 Press an idle Loop key on the Attendant Console. The Loop indicator is lit.
- 2 Press the Barge-In key. The Barge-In lamp is lit.
- 3 Press the Barge-In key again to enable Attendant Monitor. The Barge-In lamp is in the flashing state indicating that the Attendant Monitor option is enabled.
- 4 Dial the trunk access code and the route member number, then press “#”. One of the following happens:
 - Attendant Monitor is blocked when the trunk is disabled.
 - Attendant Monitor is blocked when the trunk is idle.
 - Attendant Monitor is blocked when the trunk is not assigned.
 - Attendant Monitor is blocked when the trunk is already being monitored by another attendant.

- Attendant Monitor is active when the trunk is busy. The attendant is able to listen to all parties on the trunk. If the Attendant Monitor Customer tone is denied (TOD), there is no indication given to the connected parties that the attendant is monitoring. If the Attendant Monitor Customer tone is allowed (TOA), a burst of tone is sent every 16 seconds.
- 5** When Attendant Monitor is deactivated, the attendant is released from monitoring and is free to process calls. Deactivation occurs due to the following:
 - The RLS key on the Attendant Console is pressed.
 - The trunk disconnects.
 - Any party at the customer location performs some form of call modification or activates hold.
 - Any party at the customer location disconnects.
 - Any trunk involved in the monitored call disconnects.

Introduced in X11 Release:	21
Networking:	No

China – Busy Tone Detection

In many countries, loop start trunks are not supervised. Therefore, many Public Exchanges/Central Offices send a busy tone to the Meridian 1 when the external party has disconnected. A tone detector must be used to detect this tone.

Prior to X11 Release 21, the Extended Flexible COT Trunk Card (XFCOT) already provided tone detectors on each unit of the card. The software downloads to the card the tone to be detected for a specific country, which is programmed in LD 14. However, only tones for a limited number of countries are preprogrammed. In addition, the tone cannot always be detected when the Meridian 1 sends out ringback, music, or recorded announcement on the same trunk on which the busy tone is being received.

In X11 Release 21, the China – Busy Tone Detection (BTD) feature allows a technician to enter the characteristics of the busy tone to be detected in LD 97. This information is downloaded to the Meridian 1 trunk for use during call processing. Once the busy tone is detected, the trunk sends a message to the Meridian 1 software, which then disconnects the call, and the trunk is free for other uses.

An option is provided to allow Busy Tone Disconnect to occur only for incoming calls. This option is also programmed in LD 97. Cadence information is downloaded on a card basis.

Operating parameters

The Busy Tone Detection functionality is implemented on the Enhanced Extended Universal Trunk Card for China (NTRA10AA).

The Meridian 1 will disconnect any call once busy tone is detected on the incoming side of the trunk. If the user on the far end causes busy tone to be generated by any means, the call will be disconnected whether or not that was the intention.

The BTM characteristics are downloaded on a card basis only (not on a unit basis) and thus all units on the trunk card must go to Public Exchanges that produce the same busy tone cadence.

Busy Tone Detection may not work with conference bridges in certain situations. This is due to the nature of conference bridges in such that all of the trunks are incoming. In the situation where two or more loop start trunks with BTM disconnect simultaneously, the resulting busy tone from each trunk may be detected by the BTM inhibitors of the other trunks. The result would be a stalemate where all trunks remain connected.

If a trunk card is not designed to support the Busy Tone Detection feature (for example, for future BTM hardware implementation), the functionality can still be configured in software.

To change Busy Tone Detection assigned to a trunk card, all trunks on the card must first be removed using LD 14.

Feature interactions

Loop Start Supervisory Trunks

The interaction with Intelligent Peripheral Equipment (IPE) trunks occurs because Busy Tone Supervision (BTS) can be configured in conjunction with any existing supervision type. For the EXUT, BTS can now be configured with a supervision type of BST (both incoming and outgoing battery reversal) and Polarity Insensitive (PIP). These supervision type's call processing methods are not changed, except that now the first type of supervision received is the one acted upon.

Feature packaging

China - Busy Tone Detection requires Busy Tone Detection (BTD) package 294, which depends upon Meridian 1 Extended Peripheral Equipment (XPE) package 203.

Feature implementation

For China, the BTD table and its assignment to the various routes is automatic and does not require configuration in LD 97 or LD 14, as long as the BTD package is equipped. Only the configuration of Busy Tone Supervision in LD 14 is required.

LD 97 need only be changed if the values other than the default are required. If table 0 is modified, rather than creating a new one, the assignment to the trunk in LD 14 is not required. After the BTD table is created, or changed, the data must be dumped and the system reloaded in order for the information to be downloaded.

LD 97 – Busy Tone table sample configuration.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	BTD	Busy Tone Detection.
BTDT	(0)-7 X1-X7	Busy Tone Detection Table.
BCAD	Ph1 Ph2 (350 350)	Busy Tone Cadence. The input values are rounded to the nearest multiple of 25 ms.
BTDD	(BOTH) INC	Busy Tone Detection allowed on both incoming and outgoing calls. Busy Tone Detection allowed on incoming calls only.

LD 14 – Busy Tone Detection Table and Busy Tone Supervision sample assignment.

Prompt	Response	Description
REQ	NEW	Create or change a route.
TYPE	COT	Central Office trunk.
TN	I s c u c u	Trunk Terminal Number. Terminal Number for the Option 11.
XTRK	EXUT	Extended Universal Trunk.
...		
SIGL	LOP	Loop Start signaling.
...		
SUPN	(NO) YES	Supervision.
STYP	(PIP) BTS BST PIP BTS BST BTS	Supervision type, where: PIP = Polarity Insensitive BTS = Busy Tone Supervision BST = Both way Supervision Trunk (BST) (i.e., PIP on both incoming and outgoing calls) PIP BTS = PIP and BTS, and BST BTS = BST and BTS.
BTDT	(0)-7	Busy Tone Detection Table number.

Feature operation

No specific operating procedures are required to use this feature.

China – Flexible Feature Codes

Three new Flexible Feature Code (FFC) features have been developed to meet the requirements of the Chinese Ministry of Posts and Telecommunications for the rural switch market in China. The three features are Busy Number Redial (BNR), Customer Call Forward (CCFW), and Outgoing Call Barring (OCB). With all three of these features, there is an option to provide a confirmation tone upon feature activation.

Busy Number Redial

Busy Number Redial enables a user of an analog (500/2500 type) telephone encountering a busy condition to automatically redial the busy number by performing a switchhook flash and dialing the Busy Number Redial FFC. When the user goes off-hook next without dialing any digit, the busy number is automatically redialed. This feature remains in effect until the desired DN is reached, up to a maximum of 20 minutes.

Customer Call Forward

Customer Call Forward allows users of analog (500/2500 type) telephones to forward their telephones to a central answering position by dialing the Customer Call Forward FFC. This feature activates the Call Forward All Calls function without having to specify the forward DN.

Outgoing Call Barring

Outgoing Call Barring allows a set to be blocked from making some or all outgoing calls. Three levels of barring are available which can be selected by dialing the Outgoing Call Barring FFC, the barring level desired, and the Station Control Password (SCPW).

The three levels are each associated with a New Flexible Code Restriction (NFCR) tree in the Customer Data Block. When a DN is dialed, the digits dialed are compared to the associated NFCR tree and busy tone is given if the call is barred. An FFC is also available to verify that the feature is active.

The active level cannot be changed without first deactivating the feature and reactivating it with a new level.

Operating parameters

Although designed for China, the China – Flexible Feature Codes feature can be used in other markets.

Busy Number Redial is only available for internal calls and for trunk calls that provide a busy signal when busy tone is given.

Busy Number Redial and Customer Call Forward are only available for analog (500/2500 type) telephones.

Outgoing Call Barring does not apply to BRI sets.

The Reply DN for CCFW is limited to 16 digits.

OCB will only process “*” and “#” according to the active NFCR tree if the digits are to be outpulsed on a route with OPR active (including all necessary conditions for OPR). If they are dialed as part of an FFC, the call is allowed; otherwise, an octothorpe will cause the call to be blocked. An “*” will be ignored, except during digit counting. Thus, FFCs containing a “*” or a “#” cannot be blocked by this feature.

OCB will not prevent calls from terminating when there are too few dialed digits to traverse the full NFCR tree (for example, if the active tree is set up to bar 2001, but a DN of 200 exists, calls to 200 will be allowed with no error message).

The maximum number of digits that will be processed by OCB is 32. If the call is not allowed or denied by that point, the call is barred.

OCB can bar feature access codes such as Special Prefix (SPRE) codes and numeric FFCs. It will not bar the digits dialed after a feature access code.

Feature interactions

Busy Number Redial

Autodial

Activation of Busy Number Redial changes the activation of Autodial. The DN that is autodialed becomes the DN that was busy. When the BNR activation timer expires or the busy DN is redialed when it is idle, the autodial capability is deactivated, but the number saved is not cleared. If Autodial is then activated without entering a DN, the number used is the formerly busy DN.

Activation of Autodial when BNR is active deactivates BNR.

Automatic Set Relocation

Busy Number Redial is deactivated when a set is relocated.

Deactivate Feature FFC

The Deactivate Feature (DEAF) FFC deactivates Busy Number Redial.

Hot Line

Busy Number Redial cannot be used on Flexible Hot Line or Enhanced Hot Line sets.

Off-Hook Alarm Security

Busy Number Redial cannot be used on a set with Off-Hook Alarm Security Allowed, since autodial cannot be configured on these sets.

16-Button Dual-tone Multifrequency (DTMF) Sets

Busy Number Redial (BNR) activate can be a postdial function, and BNR deactivate can be a predial function. Both FFCs may be dialed normally from a 16-button DTMF telephone.

Customer Call Forward

Customer Call Forward (CCFW) is another way of activating Call Forward All Calls (CFWAC), therefore all interactions with CCFW not specified below are the same as with CFWAC.

Call Forward All Calls

When CCFW is active Call Forward All Calls (CFWAC) cannot be activated by Flexible Feature Code, but can be activated by SPRE. When CFWAC is active, CCFW cannot be activated.

CCFW can be deactivated by deactivating CFWAC. CFWAC can only be deactivated by the CCFD FFC if the current CFW DN is the same as the current CCFW DN.

Deactivate Feature FFC

The Deactivate Feature FFC deactivates Customer Call Forward.

Make Set Busy

Customer Call Forward takes precedence over Make Set Busy if both are active.

16-Button Dual-tone Multifrequency (DTMF) Sets

CCFA and CCFD are allowed as predial ABCD functions. They may also be dialed normally from 16-Button DTMF telephones.

Outgoing Call Barring

Outgoing Call Barring is an additional feature that may block a call. All other call blocking features still apply as usual.

Authorization Code Security Enhancement

Digits dialed after an Authorization Code are checked against the active OCB level.

Call Forward All Calls

When a set with Outgoing Call Barring active activates CFWAC with a new CFW DN, the CFW DN is checked against the current barring level. If the DN is not allowed to be dialed, it can also not be used as a Call Forward DN. This is to prevent a set from forwarding to a barred DN and then dialing its own DN to bypass the restrictions.

Charge Account and Calling Party Number

Digits dialed after a charge account are checked against the active OCB level.

Digit Display

Meridian 1 proprietary telephones with displays do not display the OCB level and the Station Control Password (SCPW) when OCB FFCs are dialed. This protects the security of the SCPW.

Flexible Feature Codes

Flexible Feature Codes containing a “*” or an “#” will always be allowed by OCB. Therefore, FFCs which can be used to make a call should be entirely numeric if barring of them is required.

Some FFCs are equivalent to Special Prefix functions and these will be subject to barring based on the equivalent Special Prefix codes, even if the FFC is entirely numeric.

Last Number Redial

Barred DN's will be stored by Last Number Redial (LNR). DN's redialed using LNR are checked against the active OCB level.

OCB Flexible Feature Codes are not stored as the last number dialed.

Network Alternate Route Selection (NARS)/Basic Alternate Route Selection (BARS)

Calls made through NARS or BARS that result in local termination may not be barred based on the full dialed digits. They will be barred based on the resulting local digits. Calls to a Local Steering Code will use the full dialed digits, as well as the resulting termination. Calls to the Home Location Code (HLOC) will be barred based on the AC1 and HLOC, and then barred separately based on the local DN. Other local terminations include calls to an Numbering Plan Area (NPA) or Home Numbering Plan Area (HNPA) that use Supplemental Digit Restriction and Recognition to recognize a Local Direct Inward Dialing (DID) number, and calls using a Route List Block which terminate using the LTER option.

New Flexible Code Restriction

Outgoing Call Barring uses New Flexible Code Restriction (NFCR) trees to define the digit sequences that are not allowed for each level of barring. However, OCB analyses all dialed digits, whereas NFCR only analyses digits outpulsed on trunks. This means that the same tree will not normally be usable for both features, unless only Coordinated Dialing Plan trunk calls are to be blocked for both features and no digit manipulation is done.

Outpulsing of Asterisks and Octothorpes

The NFCR trees used for Outgoing Call Barring are allowed to contain asterisks and octothorpes when the Outpulsing of Asterisk and Octothorpe (OPAO) package 104 is equipped. These special digits will only be used for processing dialed digits on routes with OPAO allowed.

Remote Call Forward

Activation of CFW to a barred DN by Remote Call Forward will be permitted, since the user has had to dial the Station Control Password, which could also have been used to deactivate OCB.

Ring Again

Ring Again cannot be activated after a call is barred by Outgoing Call Barring. Sets with display will not offer Ring Again.

Saved Number Redial

DNs redialed using Saved Number Redial (SNR) are checked against the active OCB level.

M2317 sets will offer a “Save #” after a call to a barred DN.

Speed Call

Digits dialed using Speed Call are checked against the active OCB level. This includes calls made using the Dial Access to Speed Call feature (that is, using Pilot DNs).

Speed Call, System

Digits dialed using System Speed Call are checked against the active OCB level.

16-Button Dual-tone Multifrequency (DTMF) Sets

The Outgoing Call Barring FFCs are not allowed as ABCD functions. They may be dialed normally from 16-Button DTMF telephones.

Feature packaging

China – Flexible Feature Codes is contained in base X11 system software. The following packages are required for feature activation:

- Flexible Feature Codes (FFC) package 139
- Busy Number Redial also requires the Autodial functionality that is contained in Optional Features (OPT) package 1
- Customer Call Forward also requires the Call Forward All Calls functionality contained in Optional Features (OPT) package 1 and Special Service for 2500 Sets (SS25) package 18
- Outgoing Call Barring also requires the New Flexible Feature Code Restriction (NFCR) package 49

Feature implementation

LD 15 – Define the basic setup for all three of the FFC-based features.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	FFC	Release 21 gate opener.
CUST	xx	Customer number.
- FFCS	(NO) YES	(Do not) change Flexible Feature Code end-of-dialing indicator.
- STRL	1-3	String Length of end-of-dial indicator.
- STRG	xxx	String to indicate end-of-dialing. Up to three digits as defined by STRL. Digits 0-9 and “#” are valid entries.
REQ	CHG	Change.
TYPE	FTR	Release 21 gate opener.
- SPRE	nnnn	Special Function Prefix (required for FFCs to operate).

LD 56 – Define Confirmation Tone.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	FTC	Flexible Tones and Cadences.
TABL	0-31	FTC Table Number.
HCCT	YES	Hardware controlled cadences and tones.
...		
- FFCT		Configure Confirmation Tone.
- - XTON	0-(4)-255	XCT (NT8D17 Conference/TDS) Tone code.
- - XCAD	(0)-255	XCT (NT8D17 Conference/TDS) Cadence number (FCAD cadence number).

Busy Number Redial**LD 57** – Configure Flexible Feature Codes for Busy Number Redial.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	FFC	Flexible Feature Codes.
CUST	xx	Customer number.
FFCT	(NO) YES	Flexible Feature Confirmation Tone.
CODE		Change code.
- DEAF	xxxx	Deactivate Feature.
- BNRA	xxxx	Busy Number Redial activation code.
- BNRD	xxxx	Busy Number Redial deactivation code.

LD 15 – Set the Autodial Delay time used by Busy Number Redial.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	FFC	Release 21 gate opener.
CUST	xx	Customer number.
- ADLD	(0)-20	Number of seconds to delay before autodialing the saved busy number (0 will make the feature unavailable). Odd entries are rounded up to the next even number.

LD 10 – Allow Busy Number Redial for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. Terminal Number for the Option 11.
CLS	(BNRD) BNRA	(Deny) allow Busy Number Redial for this telephone.
FTR	ADL xx	Autodial, where: xx = the maximum number of digits that can be stored.

Customer Call Forward

LD 57 – Configure Flexible Feature Codes for Customer Call Forward.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	FFC	Flexible Feature Codes.
CUST	xx	Customer number.
FFCT	(NO) YES	Flexible Feature Confirmation Tone.
CODE		Change code.
- DEAF	xxxx	Deactivate Feature.
- CCFA	xxxx	Customer Call Forward activation code.
- CCFD	xxxx	Customer Call Forward deactivation code.

LD 15 – Add or change the Reply DN for Customer Call Forward.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	RDR	Release 21 gate opener.
CUST	xx	Customer number.
- CCFWDN	dd..dd X	Customer Call Forward DN (maximum of 16 digits). X to delete.

LD 10 – Configure the Call Forward feature to allow Customer Call Forward for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. Terminal Number for the Option 11.
FTR	CFW nn	Call Forward (nn must be the same number of digits as the CCFW DN).

Outgoing Call Barring

LD 57 – Configure the Flexible Feature Codes for Outgoing Call Barring.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	FFC	Flexible Feature Codes.
CUST	xx	Customer number.
FFCT	(NO) YES	Flexible Feature Confirmation Tone.
CODE		Change code
- OCB A	xxxx	Outgoing Call Barring activation code.
- OCB D	xxxx	Outgoing Call Barring deactivation code.
- OCB V	xxxx	Outgoing Call Barring verification code.

LD 15 – Specify NFCR trees and Station Control Password length.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	FCR	Release 21 gate opener.
NFCR	(NO) YES	(Disable) enable New Flexible Code Restriction.
- MAXT	1-255	Maximum number of NFCR trees.
- OCB1	0-MAXT	NFCR tree for Outgoing Call Barring level 1. Enter 255 to deactivate.
- OCB2	0-MAXT	NFCR tree for Outgoing Call Barring level 2. Enter 255 to deactivate.
- OCB3	0-MAXT	NFCR tree for Outgoing Call Barring level 3. Enter 255 to deactivate.
TYPE	FFC	Release 21 gate opener.

CUST	0-99	Customer number.
- SCPL	0-8	Station Control Password Length.

LD 49 – Create NFCR trees for Outgoing Call Barring.

Prompt	Response	Description
REQ	NEW	Add new data.
TYPE	FCR	Flexible Code Restriction.
CUST	xx	Customer number.
CRNO	(0)-254	New Flexible Code Restriction tree number.
INIT	ALLOW DENY	Allow or deny digit strings not in tree.
ALLOW	xxxx	Digit sequence to be allowed unconditionally.
	xxxx y...y	Digit sequence to be conditionally allowed and maximum number of digits that can follow.
UPDT	(YES), NO	Data is correct and NFCR tree can be updated.
DENY	xxxx	Digit sequence to be denied unconditionally.
	xxxx y...y	Digit sequence to be conditionally denied and maximum number of digits that can follow.
UPDT	(YES) NO	Data is correct and NFCR tree can be updated.

LD 10 – Allow Outgoing Call Barring for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. Terminal Number for the Option 11.
SCPW	xxxx	Station Control Password. Length must match SCPL in LD 15.
CLS	(OCBD) OCBA	(Deny) allow Outgoing Call Barring.

LD 11 – Allow Outgoing Call Barring for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	xxxx	Telephone type, where: xxxx = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Terminal Number. Terminal Number for the Option 11.
SCPW	xxxx	Station Control Password. Length must match SCPL in LD 15.
CLS	(OCBD) OCBA	(Deny) allow Outgoing Call Barring.

Feature operation

Busy Number Redial

To activate Busy Number Redial, a switchhook flash is done, and the BNRA FFC is dialed. The number to be redialed is stored in the set's storage area for Autodial. Confirmation tone is given if configured.

When the user goes off-hook and does not dial within the number of seconds configured for the Autodial Delay timer (ADLD) the busy number is automatically redialed. If the DN is idle when redialed, the feature is deactivated, otherwise it remains available for 20 minutes. The feature can be deactivated manually by dialing the BNRD FFC, or the Deactivate Feature FFC. The user again hears confirmation tone. Deactivating the feature when it is not active will still cause confirmation tone to be heard, since the feature may have just timed out when going off-hook to dial the deactivation code.

Customer Call Forward

Customer Call Forward is activated by dialing the CCFA FFC. Confirmation tone is given if activation is successful. When Customer Call Forward is activated, the CFWAC feature is activated with the CFW DN set to the Reply DN.

CCFW is deactivated by dialing the Customer Call Forward Deactivate FFC, or the Deactivate Feature FFC (it will also be deactivated by the activation of certain other features, see the Feature interactions section of this description).

Outgoing Call Barring

Outgoing Call Barring can be activated from a set with OCBA Class of Service. To activate OCB, the subscriber dials the OCBA FFC, the barring level desired, and the Station Control Password. An octothorpe must also be dialed from Meridian 1 proprietary telephones and analog (500/2500 type) telephones. If activation is successful confirmation tone is given. If the feature is not activated overflow tone is given.

The feature is deactivated by dialing the OCBF FFC, then the active level, and the Station Control Password. An octothorpe must also be dialed from Meridian 1 proprietary telephones and analog (500/2500 type) telephones. The subscriber may dial the OCBV FFC to verify that OCB is active. Confirmation tone is heard if OCB is active, otherwise overflow tone is heard.

